

SERVICE MANUAL



STEREO RADIO CASSETTE RECORDER

M7790LU

EUROPE



142 380 08

SPECIFICATIONS

Power Source

AC	115V/230V (50/60Hz)
DC	10.5V (HP 11, Babyzelle, R 14) x 7
Output Power	4W x 2 (Max.)
Power Consumption	13W

Current Consumption (at Vol. Min.)

Record mode (with Metal)	260mA
Playback mode	210mA
Fast Forward mode	210mA
Rewind mode	210mA

Recording System

AC Bias

Erasing System

AC Erasing

Tape Speed

1-7/8ips. $\pm 3\%$

Wow & Flutter

0.15%, WRMS

Fast Forward Time

130sec. (with C-60)

Rewind Time

130sec. (with C-60)

Torque

Playback	30 ~ 65g-cm
Fast Forward	55 ~ 180g-cm
Rewind	55 ~ 180g-cm

Erase Ratio (Overall, with Fe₂O₃)

60dB

Signal to Noise Ratio (with Fe₂O₃)

45dB

Channel Separation (with Fe₂O₃)

45dB

Frequency Response (Overall)

Fe ₂ O ₃	50Hz ~ 13,000Hz
CrO ₂	50Hz ~ 14,000Hz
Metal	50Hz ~ 15,000Hz

Crosstalk (with Fe₂O₃)

Track to Track

60dB

Harmonic Distortion (K3, with Fe₂O₃) ..

3%

Hum & Noise (at Vol. Min.)

-65dBs

Input Sensitivity and Impedance

MIC. 0.3mV/3.9k Ω

LINE IN 300mV/100k Ω

Output Level and Impedance

LINE OUT 550mV/2.2k Ω

Ext. Speaker 3,200mV/3.2 Ω

Headphone 3,900mV/32 Ω

Oscillation Frequency

60kHz

Frequency Range

MW 525 ~ 1,605kHz

LW 150 ~ 360kHz

SW 6 ~ 18MHz

FM 87.5 ~ 108MHz

Dimensions 437(W) x 137(H) x 99(D)mm

Weight 2.5kg

—Specifications subject to change without notice.—

WM-10260

NOTE:

The above mentioned specifications are mainly based on the IHF measurements standard. They can therefore not directly be compared with specifications based on the DIN standard or other standards.

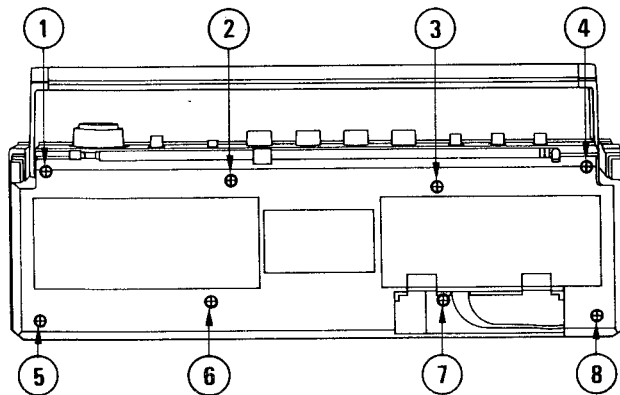
DISASSEMBLY INSTRUCTIONS

GENERAL REMARKS

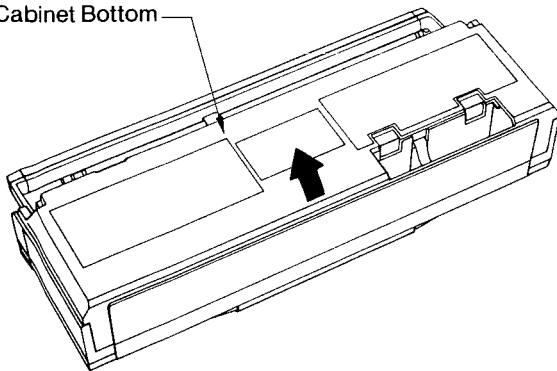
- Before disassembling the unit, spread a soft rubber mat or a cloth on the workbench to avoid scratches and grease stains.
- Do not spread anything which is likely to cause static electricity because transistors and ICs may be easily damaged by it.
- Reassemble the unit, noting the kinds of screws and the soldering and arrangement of the leads. Refer to "Circuit Diagram and Exploded Views" for correct assembly.
- Before disassembling the unit, take out the cassette tape and the batteries.

CABINET BOTTOM REMOVAL

1. Detach the battery compartment lid and remove the eight screws (1 ~ 8) fastening the Cabinet Bottom.



Cabinet Bottom

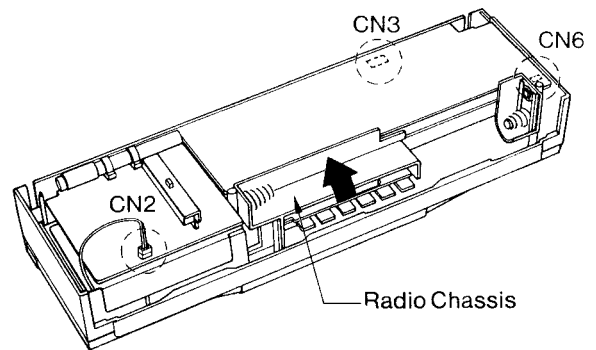


2. Detach the Cabinet Bottom by lifting it in the direction of the arrow and pull out the connector of the antenna from the Radio Tuner P.C.Board.
3. Reassemble in reverse order.

RADIO CHASSIS REMOVAL

1. After detaching the Cabinet Bottom, pull out the Tuning, Volume Control, Balance Control, Treble Control, and Bass Control Knobs from the unit.

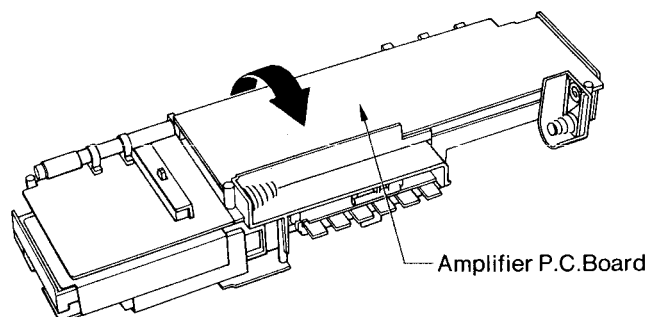
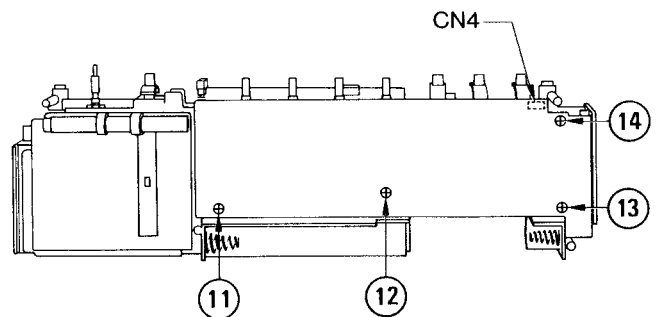
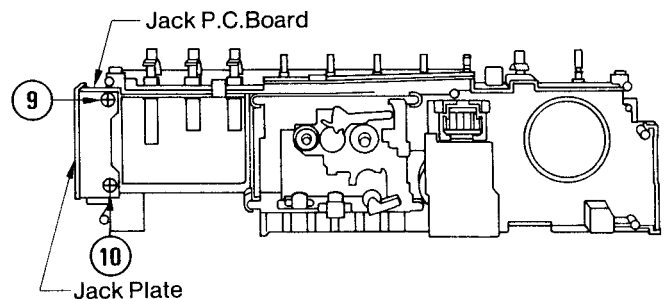
2. Remove the three connectors (CN2, CN3 and CN6) from the Amplifier P.C.Board and detach the Radio Chassis by lifting it in the directions of the arrow.



3. Reassemble in reverse order.

AMPLIFIER P.C.BOARD REMOVAL

1. Detach the Radio Chassis by following the instructions for it. Then, remove the two screws (9 and 10) fastening the Jack P.C.Board and detach the Jack P.C.Board and the Jack Plate.
2. Pull out the connector CN4 from the Amplifier P.C.Board and remove the four screws (11 ~ 14) fastening the P.C.Board.

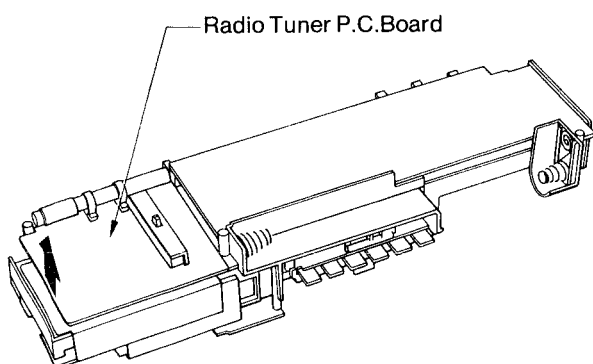
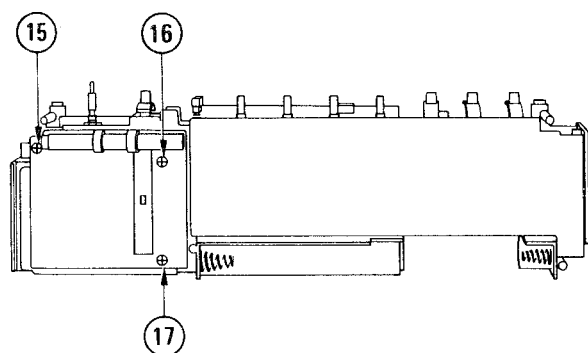


DISASSEMBLY INSTRUCTIONS (Continued)

3. Detach the Amplifier P.C.Board by lifting it in the direction of the arrow noting the lead wires.
4. Reassemble in reverse order.

RADIO TUNER P.C.BOARD REMOVAL

1. Detach the Cabinet Bottom by following the instructions for it and fully turn the Tuning Shaft in an arbitrary direction.
2. Pull out the two connector CN1 and CN2 from the P.C.Board and remove the three screws (15 ~ 17) fastening the Radio Tuner P.C.Board. Then, detach the P.C.Board by lifting it in the direction of the arrow noting the lead wires.



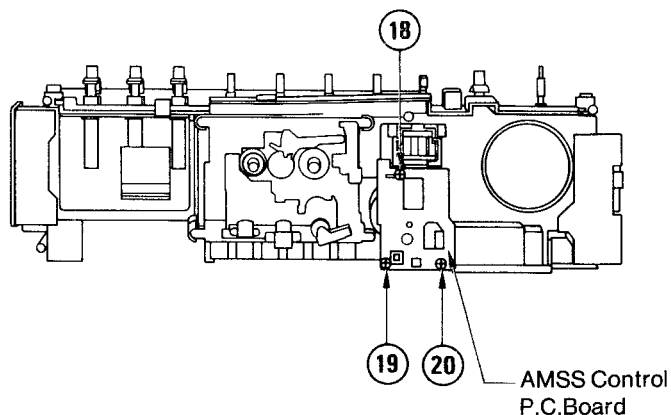
3. Reassemble in reverse order.

NOTE:

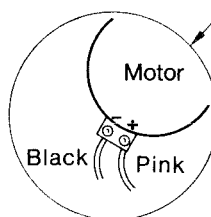
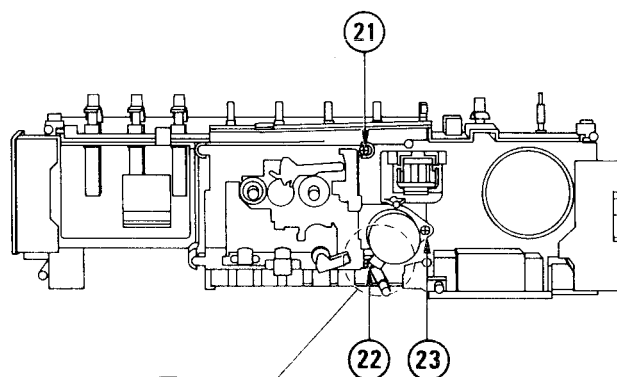
- * Do not turn the Tuning Knob before the Radio Tuner P.C.Board is re-mounted to the unit.
- * When the Radio Tuner P.C.Board is mounted, insert the shaft of the variable capacitor into the hole on the drum. After that, check to see that correct dial indications are obtained by turning the Tuning Knob.

MECHANISM CHASSIS REMOVAL

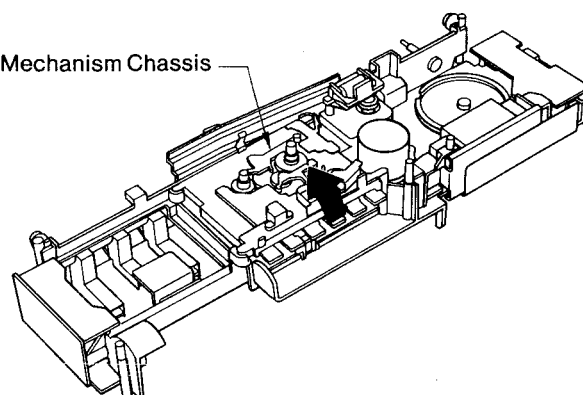
1. Detach the Radio Chassis by following the instructions for it and remove the screw (12) fastening the Amplifier P.C.Board.
2. Remove the three screws (18 ~ 20) fastening AMSS Control P.C.Board and detach the P.C.Board.



3. Detach the Counter Belt and unsolder the two leads (pink and black) from the Motor. Then, Remove the three screws (21 ~ 23) fastening the Mechanism Chassis.



Mechanism Chassis



4. Detach the Mechanism Chassis by lifting it in the direction of the arrow noting the lead wires.
5. Reassemble in reverse order.

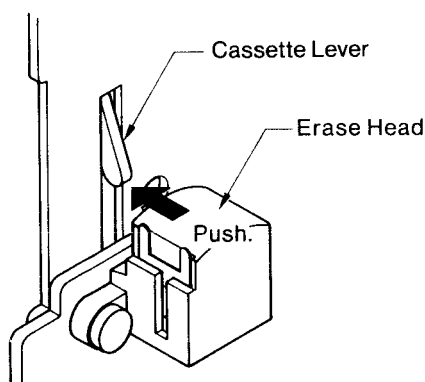
MECHANICAL ADJUSTMENTS

EQUIPMENT REQUIRED

- Cassette-type Torquemeter (100g-cm/160g-cm)
- Round-nose Pliers
- Plus Screwdriver
- A Pair of Tweezers
- Paint or Glue

GENERAL REMARKS

1. When a repair or an adjustment work on the mechanism is performed, remove the Mechanism Chassis from the unit and supply 12V DC from the constant-voltage regulator to the Ext. Power Jack on the Amplifier P.C.Board.
2. Before and after the mechanism adjustment, clean the tape contacting surfaces with a soft cloth soaked in alcohol. Trouble may occur because of oil and grease stains. The belts must be kept clean while the adjustments are performed.
3. If the Pinch Roller or Belt has quality deterioration such as scratches, replace it with a new one.
4. When the cassette tape is inserted into the cassette holder, the Play button can not be pressed. If the Mechanism is required to function under this condition, push the Cassette Lever as illustrated, so that the Button is released and the mechanism functions normally.



5. This Mechanism does not function when power is not supplied and any one of the buttons is pressed. When the batteries are almost used up and the Play button is pressed, the Slide Base stops halfway, making it difficult to remove the cassette tape from the compartment. To avoid this, replace the batteries with new ones beforehand.

Position Adjustment of Leaf Switches

This model has the following three leaf switches. Checking and adjustment for each switch must be conducted in accordance with each adjustment item.

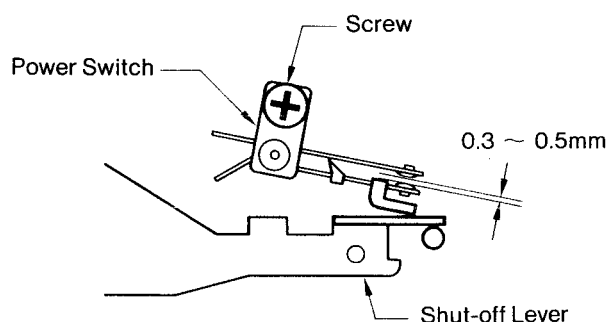
The unit should be set in the stop mode at each adjustment.

- * Power Switch
- * Play Mute Switch
- * AMSS Switch

1. Power Switch

When one of the select buttons (except for the Pause and Stop/Eject buttons) is pressed, this Switch is turned on by the Shut-off Lever, so that the Motor starts rotating. The driving motor rotates the flywheel and the rotational force transferred by the actuate gear makes the mechanism function.

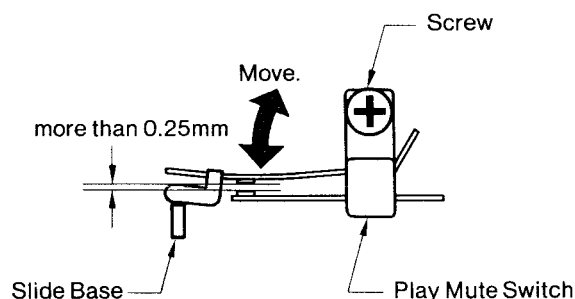
- * Check that the clearance of the switch contacts is 0.3 ~ 0.5mm with the Power Switch in contact with Shut-off Lever as illustrated.



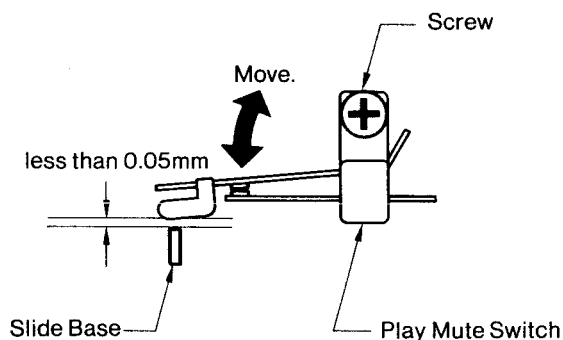
2. Play Mute Switch

This switch is normally closed and it is turned off by the Slide Base when the Play button is pressed.

- * Set the unit in the playback mode and check that the clearance between the switch contacts is more the 0.25mm as illustrated.



- * Press the Pause button and check that the clearance between the switch and the Slide Base is as illustrated. The clearance should be less than 0.05mm.

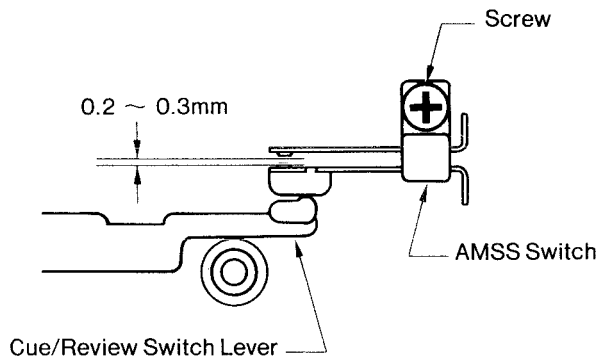


MECHANICAL ADJUSTMENTS (Continued)

3. AMSS Switch

This Switch is turned on by the Cue/Review Switch Lever when the unit is set in the cue or review mode by pressing the F.FWD or Rewind button in the playback mode. Then, the AMSS circuit is functioning.

- * Set the unit in the stop mode and check that the clearance between the switch contacts is 0.2 ~ 0.3mm with the AMSS Switch in contact with the Cue/Review Switch Lever as illustrated.



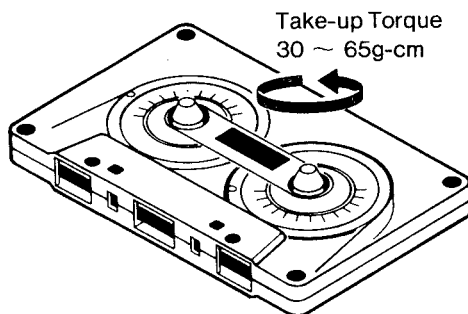
Switch Adjustment

Loosen the screws fastening each switch and move the switches to the specified positions if position adjustments are required.

After the adjustment, tighten the screws and secure the switches with paint or glue.

TAKE-UP TORQUE

1. Insert a cassette-type torquemeter (100g-cm) into the cassette compartment and set the unit in the playback mode. Then, check that the take-up torque is 30 ~ 65g-cm.

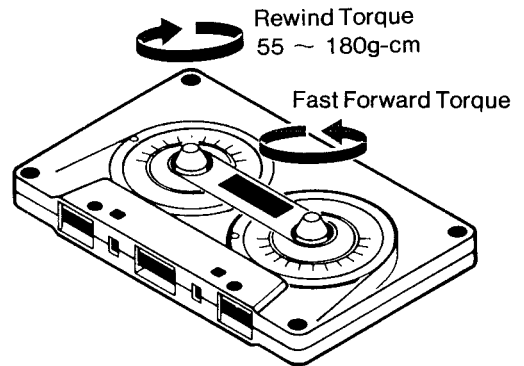


Cassette-type Torquemeter

2. If not, replace the Friction Assembly with a new one.

F.FWD AND REWIND TORQUES

1. Insert a cassette-type torquemeter (160g-cm) into the cassette compartment and measure the fast forward and rewind torque. Check that each torque is 55 ~ 180g-cm.



2. If not, replace the Friction Assembly with a new one.

AMSS SOLENOID ADJUSTMENT

AMSS (Automatic Music Select System) detects a silent space (unrecorded portion) between each music on a musictape and automatically plays back a desired music from the start.

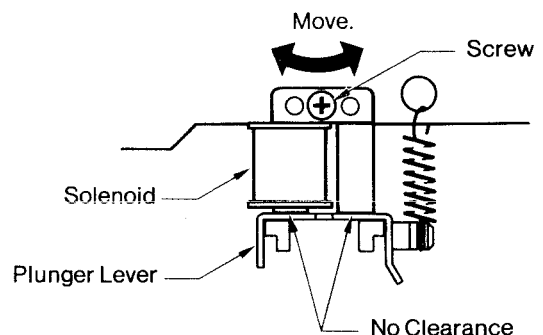
The unrecorded portion should last for more than approximately 4 seconds.

It may not operate correctly in the following cases:

- * When the recorded sound is often interrupted as in a speech tape.
- * When the silent space does not last long enough (less than 4 seconds).
- * When there is an appreciable noise in the silent space between two adjacent programs.
- * When the unit is placed on a television set, AMSS may not operate correctly due to adverse effect of the TV signal. In this case, put the unit away from the television set.

If AMSS Solenoid is not correctly positioned, AMSS Switch does not function correctly, F.FWD or Rewind button is released while AMSS is working, or a button may not be locked. In this case, perform the adjustment as follows:

1. Remove the Mechanism Chassis from the unit by following its removal instructions.
2. Loosen the screw fastening the Solenoid and adjust the Solenoid by moving it in the direction of the arrow, so that the Plunger Lever is tightly attached to the two absorption surfaces of the Solenoid as illustrated.



MECHANICAL ADJUSTMENTS (Continued)

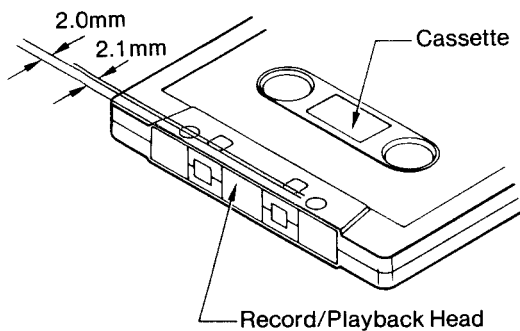
3. After the adjustment, tighten the screw.
Set the unit in the playback mode and check that AMSS mechanism functions correctly as follows:
 - * Check if F.FWD button can be locked by pressing it.
 - * Check if Rewind button can be locked by pressing it.
4. Readjust the solenoid position if either F.FWD or Rewind button can not be locked or is soon released.
5. After the confirmation, secure the screw with paint or glue.

RECORD/PLAYBACK HEAD ADJUSTMENT

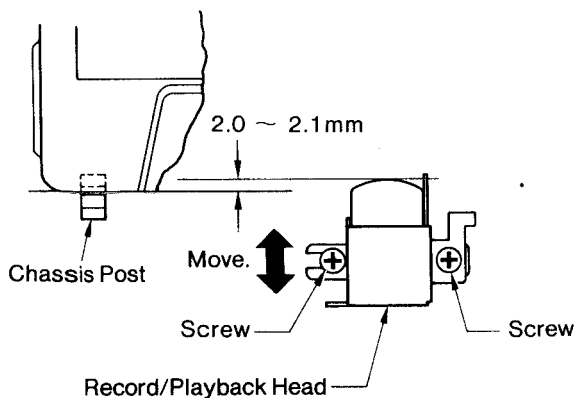
After a head has been replaced or disassembled, adjust its position following the procedures.

NOTE:

A Cassette with the specified pin-head distances marked on it can be used as a very convenient gauge for the Head Position Adjustment. (Do not use a worn cassette.)



1. Set the unit in playback mode and press the Pause button.
Check that the distance from the Chassis Posts to the Record/Playback Head is 2.0 ~ 2.1 mm as illustrated.

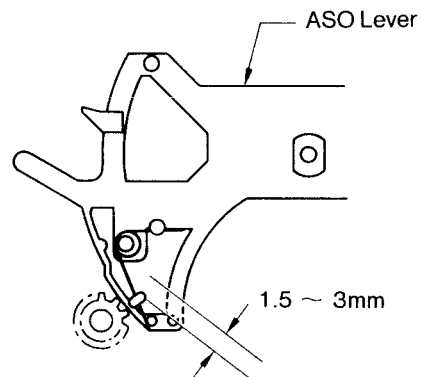


2. If necessary, loosen the screws fastening the record/playback head and adjust the head to the specified position by moving it.
3. After the adjustment, tighten the screws and secure them with paint or glue.
Then, check that AMSS mechanism functions correctly.

ASO LEVER

The service part of the ASO lever is not cut to avoid deforming, as illustrated.

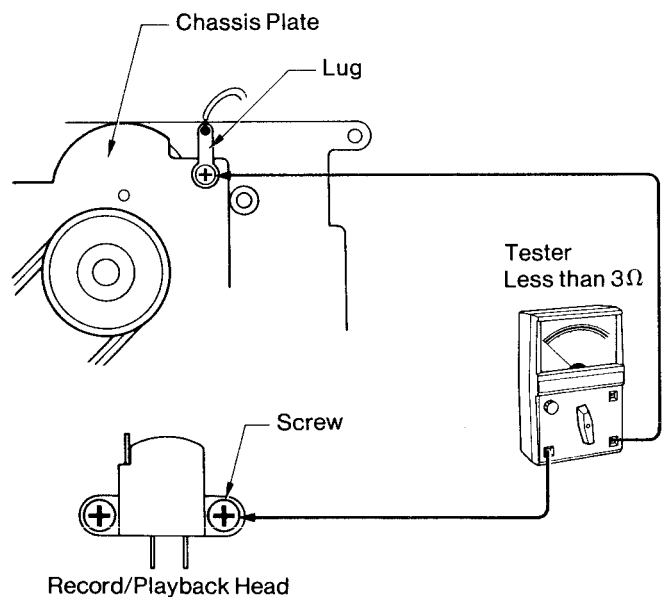
When replacing, cut 1.5 ~ 3mm of the part indicated in the illustration.



NOTICE ON REASSEMBLY

When reassembling the mechanism, check if the resistance between the screw fastening the Record/Playback Head and the Lug attached to the Chassis Plate is less than 3Ω.

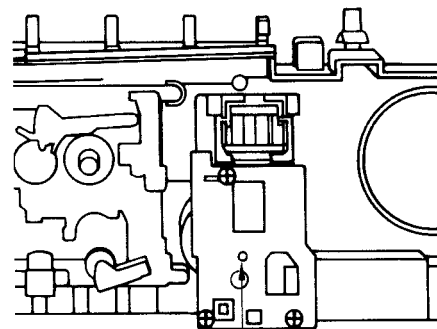
When the resistance is more, there will be noise during recording or playback of the cassette tape.



ELECTRICAL ADJUSTMENTS

EQUIPMENT REQUIRED

- VTVM (2 sets)
- Frequency Counter
- Dummy Load (47k Ω)
- Audio Signal Generator
- Attenuator
- Dualtrace Synchroscope
- DC Constant-voltage Regulator
- Test Tapes
 - ‡ 3kHz Test Tape (Example: TEAC MTT-111) for Tape Speed Adjustment
 - ‡ 10kHz Test Tape (Example: TEAC MTT-114) for Head Azimuth Adjustment
 - ‡ 400Hz Test Tape for Dolby Calibration Level (Example: TEAC MTT-150) for Playback Sensitivity Adjustment
- Test Tapes for Recording and Playback Operations
 - ‡ Chromium Dioxide Tape (Example: TDK AC-512)
 - ‡ Metal Tape (Example: TDK AC-711)
- Alignment Tool



Potentiometer for Tape Speed Adjustment

Unless especially specified, set the unit and measuring instruments as follows:

- Function Switch LINE
- Dolby NR Switch OFF
- Tape Select Switch NORMAL
- Mode Switch STEREO
- Beat Cancel Switch 2
- Volume Control Minimum (0)
- Audio Signal Generator output 1kHz, 0dB (1V)

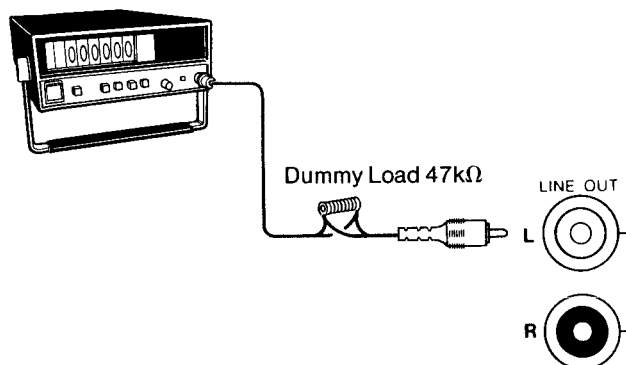
NOTE:

- ‡ The Electrical Adjustment should be performed in the order as described below.
- ‡ Supply 12V DC from the constant-voltage regulator to the Ext. Power Jack.

TAPE SPEED ADJUSTMENT

1. Remove the Radio Chassis from the unit and connect a frequency counter to the left or right channel LINE OUT as illustrated. Then, insert a 3kHz test tape (Example: TEAC MTT-111) into the cassette compartment.

Frequency Counter



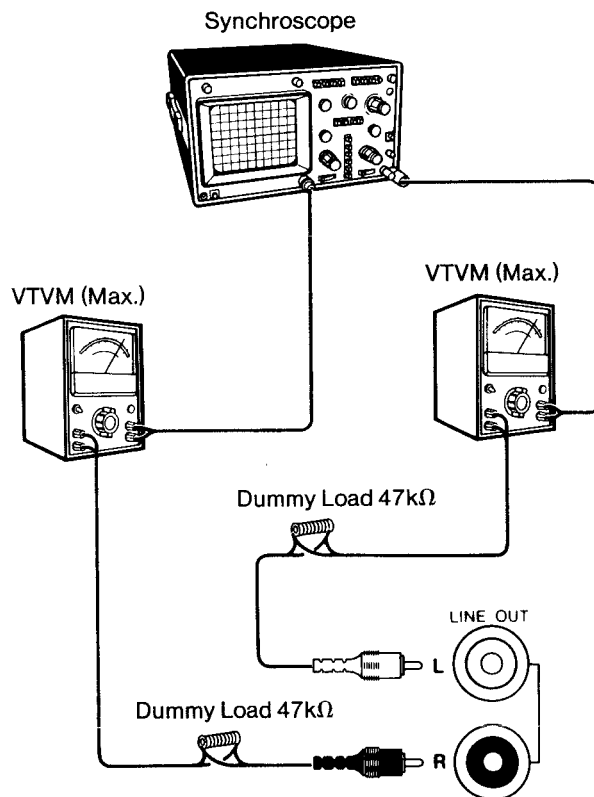
2. Adjust the tape speed by slowly turning the potentiometer inside the Motor until the frequency counter reads 3,000Hz (± 30 Hz).

HEAD AZIMUTH ADJUSTMENT

1. Connect a dualtrace synchroscope and a VTVM to both channel LINE OUT as illustrated.

Then, set the dualtrace synchroscope as follows:

- * MODE CHOP (chopped)
- * SOURCE INT (internal), CH1 or CH2
- * SWEEP MODE AUTO (automatic)

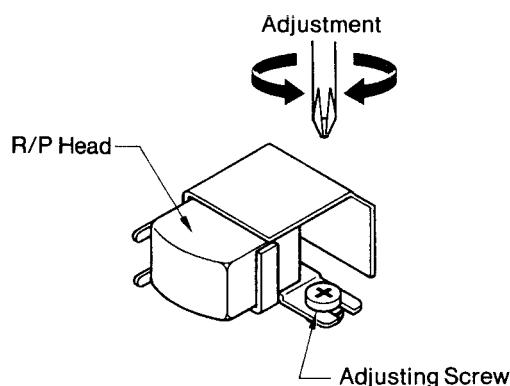
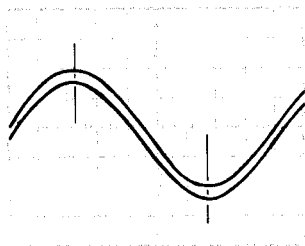


NOTE:

Adjust the field on the synchroscope with the VOLT. ADJ. and TIME ADJ.

ELECTRICAL ADJUSTMENTS (Continued)

- Insert a 10kHz test tape (Example: TEAC MTT-114) into the cassette compartment. While playing back the test tape, turn the azimuth adjusting screw until the wave forms of the right and left channels are superimposed and set to optimum at maximum reading on the VTVM.



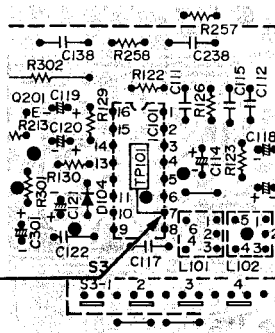
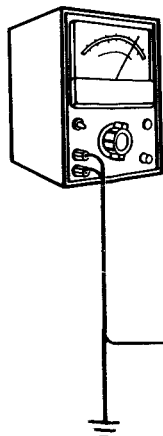
- After the adjustment, secure the adjusting screw with paint or glue.

PLAYBACK SENSITIVITY ADJUSTMENT

LEFT CHANNEL

- Connect a VTVM to the test point TP101 as illustrated and insert a 400Hz test tape for Dolby Calibration Level (Example: TEAC MTT-150) into the cassette compartment.

VTVM 580mV



Test Point TP101

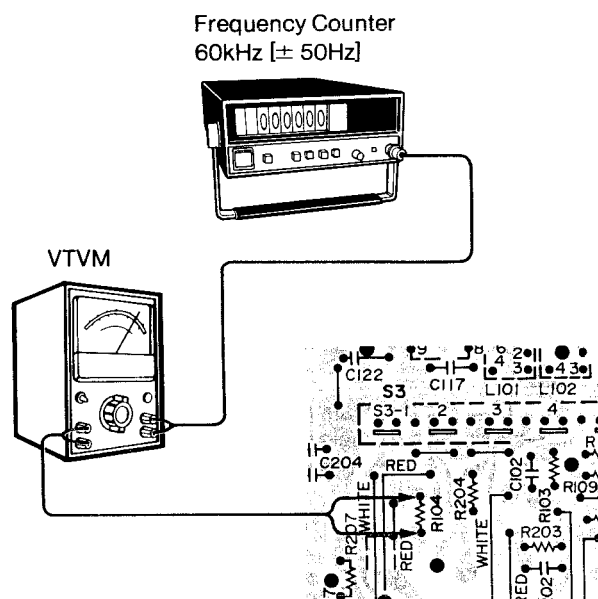
- Check that the VTVM reads 580mV for the output of the left channel while playing back the test tape.
- If necessary, adjust the output to the specified one by turning the potentiometer (P101) while the test tape is played back.

RIGHT CHANNEL

Connect the VTVM to the test point TP201. Then, adjust the potentiometer (P201) for the right channel by following the same procedure as in LEFT CHANNEL.

OSCILLATION FREQUENCY ADJUSTMENT

- Connect a VTVM across the resistor R104 and a frequency counter to the output terminal of the VTVM as illustrated.



- Insert a cassette tape into the cassette compartment and set the OSC Switch to the position 2. Then, set the unit in the recording mode.
- Turn the core of the oscillation transformer (T301) with an alignment tool until the frequency counter reads 60kHz ($\pm 50\text{Hz}$).

RECORD & PLAYBACK FREQUENCY RESPONSE ADJUSTMENT

Chromium Dioxide Tape

Set the Tape Select Switch to "CrO₂" and insert a chromium dioxide tape (Example: TDK AC-512) into the cassette compartment. Then, make the adjustment by the following procedures.

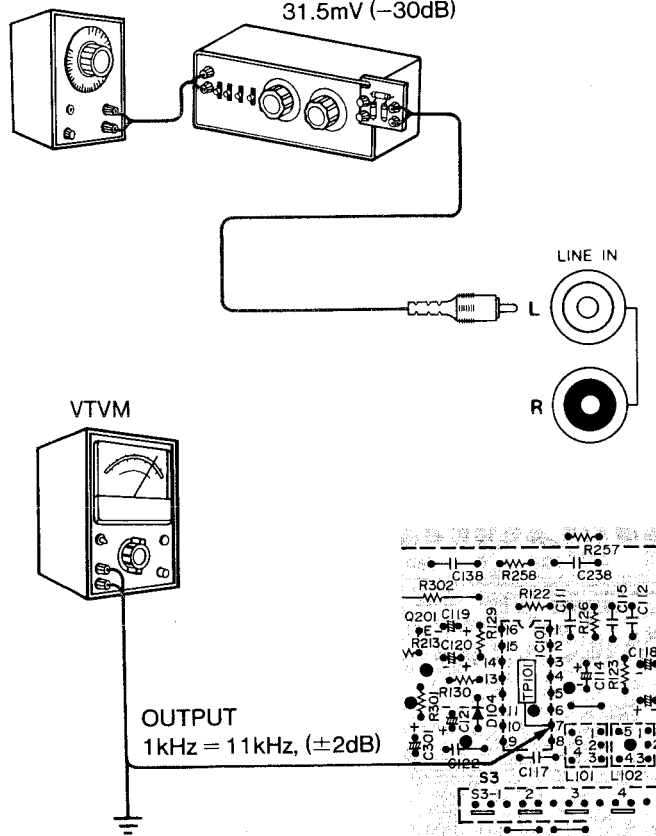
LEFT CHANNEL

- Connect an audio signal generator and an attenuator to the left channel LINE IN, and a VTVM to the test point TP101 as illustrated.

ELECTRICAL ADJUSTMENTS (Continued)

Audio Signal Generator 1kHz and 11kHz

Attenuator
31.5mV (−30dB)



2. Alternately record the 1kHz and 11kHz signals from the audio signal generator at 31.5mV (-30dB) on the tape several times.
3. Check that the 11kHz signal output is identical to the 1kHz signal output or the deviation is $\pm 2\text{dB}$ on the VTVM while playing back the recorded signals.
4. If necessary, adjust the output by turning the potentiometer (P103) and re-check the output of each signal by playing back the signals after recording operation of the signals.
5. Repeat the above adjustment until the specified output is obtained.

RIGHT CHANNEL

Connect the audio signal generator and the attenuator to the right channel LINE IN, and the VTVM to the test point TP201. Then, adjust the potentiometer (P203) for the right channel by following the same procedure as in LEFT CHANNEL.

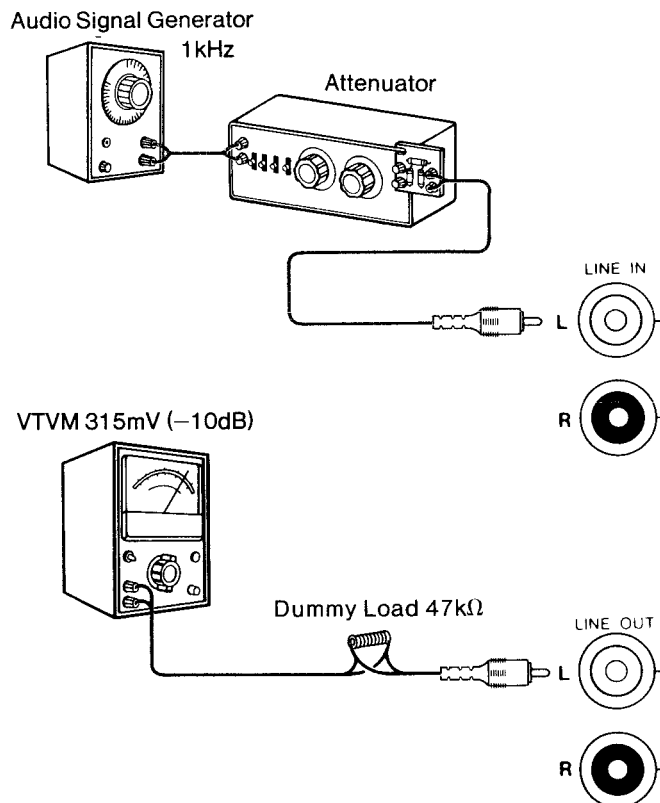
RECORD & PLAYBACK SENSITIVITY ADJUSTMENT

- **Metal Tape**

Set the Tape Select Switch to **"METAL"** and insert a metal tape (Example: AC-711) into the cassette compartment. Then, perform the adjustment by the following procedure.

LEFT CHANNEL

1. Connect an audio signal generator and an attenuator to the left channel LINE IN, and a VTVM to the left channel LINE OUT as illustrated.



2. Set the unit in the record stand-by mode by pressing the Pause Button first, and then, the Record and Play Buttons simultaneously.
3. Feed a 1kHz signal from the audio signal generator into the unit and adjust the attenuator until the VTVM reads 315mV (−10dB).
Then, record the signal on the tape by releasing the Pause Button.
4. While playing back the recorded signal, check that the signal output is 315mV (−10dB) on the VTVM.
5. If necessary, adjust the potentiometer (P102) and re-check the reading of the VTVM by playing back the signal after the recording operation for the signal.
6. Repeat the above adjustment until the specified output is obtained.

RIGHT CHANNEL

Connect the audio signal generator and the attenuator to the right channel LINE IN, and the VTVM to the right channel LINE OUT. Then, adjust the potentiometer (P202) for the right channel by following the same procedure as in LEFT CHANNEL.

TUNER ADJUSTMENT

EQUIPMENT REQUIRED

- AM Standard Signal Generator
- FM Standard Signal Generator
- Generator Scope
- Loop Antenna
- Dummy Antenna (30 Ω /10pF) for SW
- Dummy Antenna (75 Ω , unbalanced type) for FM
- Ceramic Capacitor (10pF)
- Carbon Resistor (330k Ω)
- VTVM
- Frequency Counter

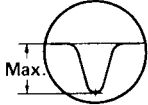
- Oscilloscope
- Dummy Load (3.2 Ω)
- Alignment Tool
- Before performing the adjustment, set the switches and controls as follows:
 - ‡ Function Switch RADIO
 - ‡ Mode Switch MONO
 - ‡ Tone Controls Max.
 - ‡ Balance Control Center (click position)
 - ‡ Volume Control Center

NOTE:

Use an alignment tool with plastic grip for all adjustments.

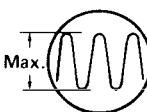
MW ALIGNMENT

Standard Test Frequency 400Hz and Modulation 30% at AM

Step	Alignment	Connections		Frequency of Signal Generator	Tuning Dial Setting	Adjustments	Remarks
		INPUT	OUTPUT				
1	Calibration of IF for AM	Connect loop antenna to output terminal of gene-scope. Place loop antenna by bar antenna.	Connect input terminal of gene-scope to detector output terminals (CN1-2 and CN1-1, or CN1-3).	460kHz	Low End	T3, T4 and T5	Obtain symmetrical curve and maximum amplitude. 
2	Calibration of Tuning Range	Connect loop antenna to output of AM signal generator. Place loop antenna 60cm away from bar antenna.	Connect VTVM with 3.2Ω dummy load and oscilloscope to Phones/Ext. Speaker jack.	510kHz			T8
3				1,670kHz	High End	TC4	
4	Adjustment of Tracking			600kHz	600kHz	L4-1 (bar ant. coil)	
5				1,400kHz	1,400kHz	TC3 (PVC)	
6	Repeat the above steps until no further change is noted in any of the adjustments.						

LW ALIGNMENT

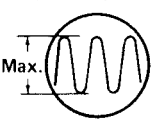
Standard Test Frequency 400Hz and Modulation 30% at AM

Step	Alignment	Connections		Frequency of Signal Generator	Tuning Dial Setting	Adjustments	Remarks
		INPUT	OUTPUT				
1	Calibration of Tuning Range	Connect loop antenna to output of AM signal generator. Place loop antenna 60cm away from bar antenna.	Connect VTVM with 3.2 Ω dummy load and oscilloscope to Phones/Ext. Speaker jack.	145kHz	Low End	T9	Obtain sine-wave of 400Hz and maximum amplitude. 
2				365kHz	High End	TC5	
3	Adjustment of Tracking			170kHz	170MHz	L4-2 (bar ant. coil)	
4				310kHz	310MHz	TC2	
5	Repeat the above steps until no further change is noted in any of the adjustments.						

TUNER ADJUSTMENT (Continued)

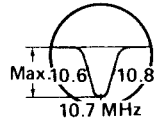
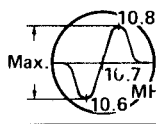
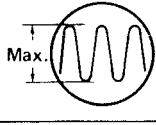
SW ALIGNMENT

Standard Test Frequency 400Hz and Modulation 30% at AM

Step	Alignment	Connections		Frequency of Signal Generator	Tuning Dial Setting	Adjustments	Remarks
		INPUT	OUTPUT				
1	Calibration of Tuning Range	Connect AM signal generator to antenna terminals (TP1 and TP2) through dummy antenna (30Ω/10pF).	Connect VTVM with 3.2Ω dummy load and oscilloscope to Phones/Ext. Speaker jack.	5.7MHz	Low End	T7	Obtain sine-wave of 400Hz and maximum amplitude. 
2				18.7MHz	High End	TC3	
3	Adjustment of Tracking			6.5MHz	6.5MHz	T6	
4				17.0MHz	17.0MHz	TC1	
5	Repeat the above steps until no further change is noted in any of the adjustments.						

FM ALIGNMENT

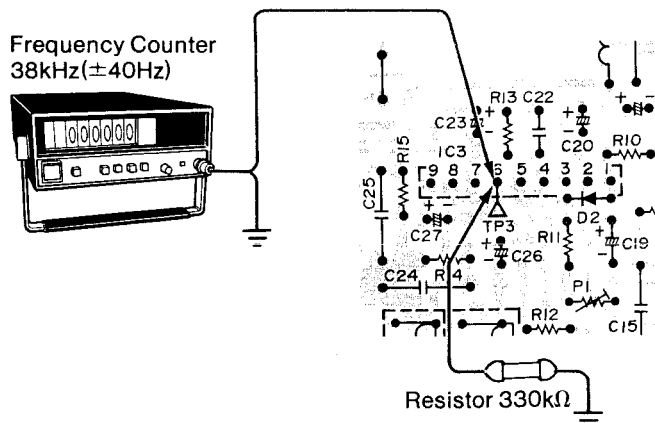
Standard test frequency 400Hz and deviation 22.5kHz

Step	Alignment	Connections		Frequency of Signal Generator	Tuning Dial Setting	Adjustments	Remarks
		INPUT	OUTPUT				
1	Calibration of IF	Place output of gene-scope to Pin 3 of IC1 through capacitor (10pF).	Connect input terminal of gene-scope to detector output terminals (CN1-2 and CN1-1, or CN1-3).	10.7MHz	Low End	Turn T2 (blue core) fully counter-clockwise T1.	Obtain symmetrical curve and maximum amplitude. 
2						T2 (blue core)	Obtain S curve and maximum amplitude. 
3	Calibration of Tuning Range	Connect FM signal generator to antenna terminals (TP1 and TP2) through dummy antenna (75Ω, unbalanced type).	Connect VTVM with 3.2Ω dummy load and oscilloscope to Phones/Ext. Speaker jack.	87.35MHz	High End	L2	Obtain sine-curve and maximum amplitude. 
4				108.25MHz		TC2 (PVC)	
5	Adjustment of Tracking			90MHz	90MHz	L1	
6				106MHz	106MHz	TC1 (PVC)	
7	Repeat the above steps until no further change is noted in any of the adjustments.						

FM MPX (Multiplex) ADJUSTMENT

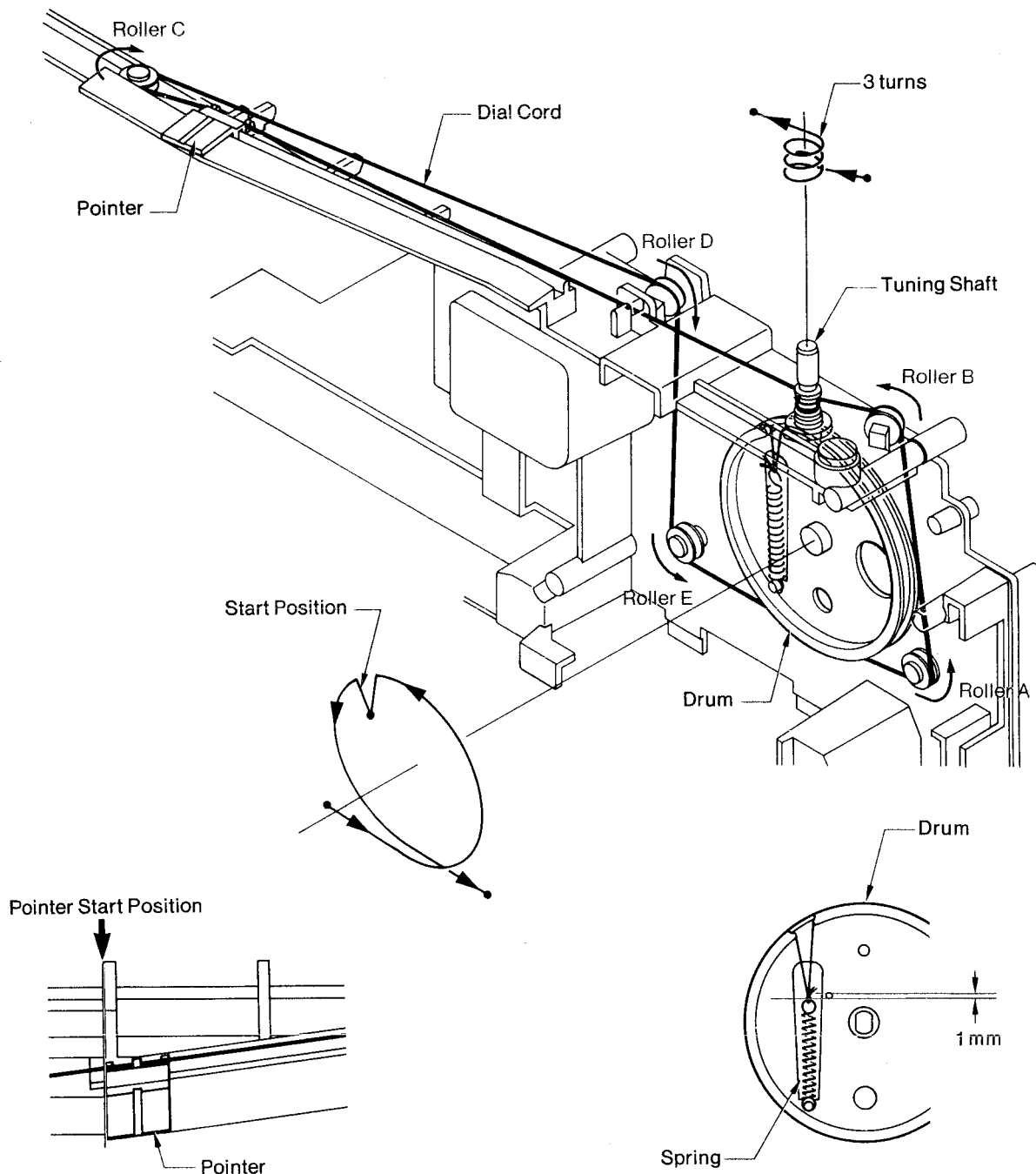
38kHz (V.C.O.) ADJUSTMENT

- Before the adjustment, set the switches as follows:
 - Function Select Switch RADIO ON
 - Band Select Switch FM
 - Mode Switch STEREO
- Ground the Pin 6 of IC3 through a resistor 330kΩ and connect a frequency counter to the Pin 6 of IC3 (TA7343P) as illustrated.
- Adjust the potentiometer (P1) until the oscillation frequency of IC3 becomes 38kHz (±40Hz).



DIAL CORD STRINGING

1. Mount the Drum on the Radio Chassis as illustrated and fully turn the shaft of the variable capacitor counterclockwise.
2. Mount the Radio Tuner P.C.Board on the Radio Chassis and then, insert the shaft of the variable capacitor into the Drum.
3. Tie the Dial Cord of length 1,100mm (effective length: 960mm) and diameter $\phi 0.5$ to the Spring and hook the Spring to the illustrated position of the drum.
4. Engage the Dial Cord as illustrated in the following order.
Spring $\rightarrow$ Drum $\rightarrow$ Roller A $\rightarrow$ Roller B $\rightarrow$ Tuning Shaft (3 turns) $\rightarrow$ Roller C $\rightarrow$ Roller D $\rightarrow$ Roller E $\rightarrow$ Drum $\rightarrow$ Spring
5. Hook the Dial Cord to the Spring and tie the Cord where the spring tip expands to the mark on the Drum as illustrated.
6. Secure the place where the Spring is hooked to the Drum and knot in the dial cord with paint or glue.
7. Turn the Tuning Shaft counterclockwise until it stops and then, set the Pointer on the Radio Chassis as illustrated.
8. Secure the Pointer with paint or glue.



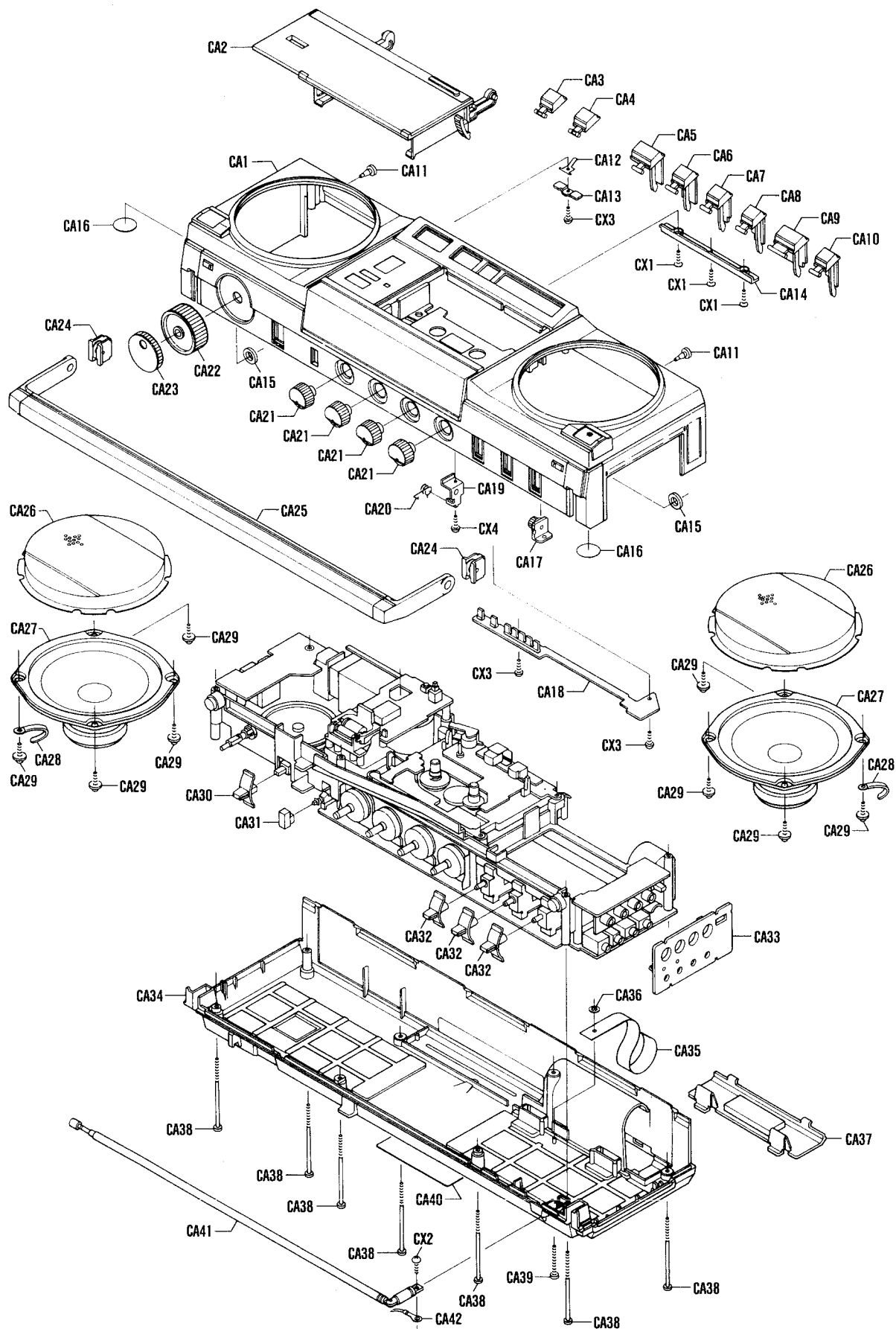
PARTS LIST

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
PACKAGE							
	141 6 1419 66803	Individual Carton	1	CA34	141 2 1119 85402	Cabinet Bottom	1
	141 6 1449 84800	Case Styrofoam, Left	1	CA35	141 2 2149 02600	Battery Ribbon	1
	141 6 1449 84900	Case Styrofoam, Right	1	CA36	141 2 4569 05100	Ring	1
	141 6 2519 11022	Poly Cover 110 x 220	1	CA37	141 0 1339 11001	Battery Lid Assy	1
	141 6 2519 13990	Poly Cover	1	CA38	141 2 4219 09800	Screw	+M3.0x65 7
	141 6 2519 23033	Poly Cover 230 x 330	1	CA39	141 2 4219 13000	Screw	+M3.0x25 1
	141 6 4559 00100	Serial No. Sheet	3	CA40	141 2 1419 15404	Rating Plate	1
ACCESSORIES				CA41	4 2449 70062	Antenna	1
	4 2419 72493	Cassette	1	CA42	4 2379 70650	Ring Terminal	1
⚠	4 2439 70310	Cord Power	1	CX1	102 3 1202 60811	Screw, Flat Hd. Tapping-1	+M2.6x8 3
141 6 4729 16700	Label Caution	1		CX2	102 3 1303 01011	Screw, Pan Hd. Tapping-1	+M3.0x10 1
142 6 4119 31799	Instruction Book	1		CX3	143 3 1302 60611	Screw, Pan Hd. Tapping-B	+M2.6x6 3
CABINET				CX4	143 3 1302 60811	Screw, Pan Hd. Tapping-B	+M2.6x8 1
	4 2359 76056	Connector 4P Assy [CN6]	1	RADIO CHASSIS			
	4 2359 76370	Receptacle	1		4 2359 76055	Connector 4P Assy [CN5]	1
CA1	141 0 1119 89007	Cabinet Top Assy	1		4 2359 76370	Receptacle	1
CA2	141 0 1249 23301	Cassette Lid Assy	1	DC1	141 2 3119 18201	Chassis Radio	1
CA3	141 2 1659 11000	AMSS Button	1	DC2	4 1919 71652	Power Supply P.C.B. Assy [See PCB5]	1
CA4	141 2 1659 10900	Rec. Mute Button	1	DC3	141 2 5519 03300	Dial Roller A	3
CA5	141 2 1659 10800	Eject Button	1	DC4	141 2 4219 14000	Screw	3
CA6	141 2 1659 10700	Pause Button	1	DC5	141 2 5389 03400	Drum	1
CA7	141 2 1659 10600	F.FWD Button	1	DC6	141 2 8519 78000	Spring, Stop	1
CA8	141 2 1659 10500	Rewind Button	1	DC7	141 2 5649 07700	Counter Belt	1
CA9	141 2 1659 10400	Play Button	1	DC8	141 2 8119 11500	Counter	1
CA10	141 2 1659 10300	Recod Button	1	DC9	4 2249 70301	Fine Tuner [FT1]	1
CA11	141 2 1749 03100	Foot	2	DC10	141 0 1939 00470	AMSS Program P.C.B. Assy [See PCB3]	1
CA12	141 2 8539 48900	Spring Switch	1	DC11	4 2519 73802	Power Trans [T701]	1
CA13	141 2 2629 05000	Switch Knob Holder	1	DC12	141 2 4729 03400	Lug	2
CA14	141 2 2629 04900	Button Holder	1	DC13	141 2 4219 10400	Poly Wave Screw	2
CA15	141 2 4469 31701	Cushion, Mike	2	DC14	141 2 3829 20800	Spring, Battery	1
CA16	4 1519 71211	Speaker (300Ω) [SP102 & SP202]	2	DC15	141 0 1939 00791	Jack P.C.B. Assy [See PCB4]	1
CA17	141 0 5519 08502	Eject Gear Assy	1	DC16	141 2 3829 18000	Spring, Terminal	1
CA18	4 1329 78451	LED Indicator P.C.B. Assy [See PCB6]	1	DC17	141 0 1939 00751	Amplifier P.C.B. Assy [See PCB1]	1
CA19	141 2 2629 05100	Bracket, Cassette Lid	1	DC18	141 2 4469 44000	Cushion, Volume	1
CA20	141 2 8549 16300	Spring, Cassette Lid	1	DC19	141 2 3829 06700	Battery Terminal Anode	1
CA21	141 2 1639 51400	Volume Knob	4	DC20	4 1539 70661	Microphone [BM1 & BM2]	2
CA22	141 2 1639 53100	Tuning Knob	1	DC21	141 2 3229 40500	Shield Plate AC	1
CA23	141 2 1639 53200	Fine Knob	1	DC22	141 0 1939 01010	Radio Tuner P.C.B. Assy [See PCB2]	1
CA24	141 2 2719 18500	Handle Holder	2	DC23	141 2 7319 56200	Plate Band Switch	1
CA25	141 0 1719 10502	Handle Assy	1	DC24	141 2 4219 29700	Screw	2
CA26	141 2 1519 37201	Grille Speaker	2	DC25	141 2 6219 03900	Band Switch Lever	1
CA27	4 1519 71401	Speaker (3.2Ω) [SP101 & SP201]	2	DC26	141 2 5119 08300	Pointer	1
CA28	141 2 4729 03400	Lug	2	DC27	141 2 8259 05900	Dial Roller	2
CA29	141 2 4219 11600	Screw	8	DC28	141 2 4359 34700	Insulator Tuner	1
CA30	141 2 1629 07200	Band Lever Knob	1	DC29	141 2 4219 32200	Eyelet	1
CA31	141 2 1659 11101	Switch Knob	1	DY1	628 3 0911 00000	String, φ0.5	1
CA32	141 2 1629 07100	Lever Switch Knob	3	DY2	101 3 1302 60611	Screw, Pan Hd.	+M2.6x6 1
CA33	141 2 3679 31507	Jack Plate	1	DY3	102 3 1303 01611	Screw, Pan Hd. Tapping-1	+M3.0x16 2
				DY4	143 3 1302 60811	Screw, Pan Hd. Tapping-B	+M2.6x8 5
				DY5	143 3 1303 00811	Screw, Pan Hd. Tapping-B	+M3.0x8 4
				DY6	143 3 1303 01011	Screw, Pan Hd. Tapping-B	+M3.0x10 6

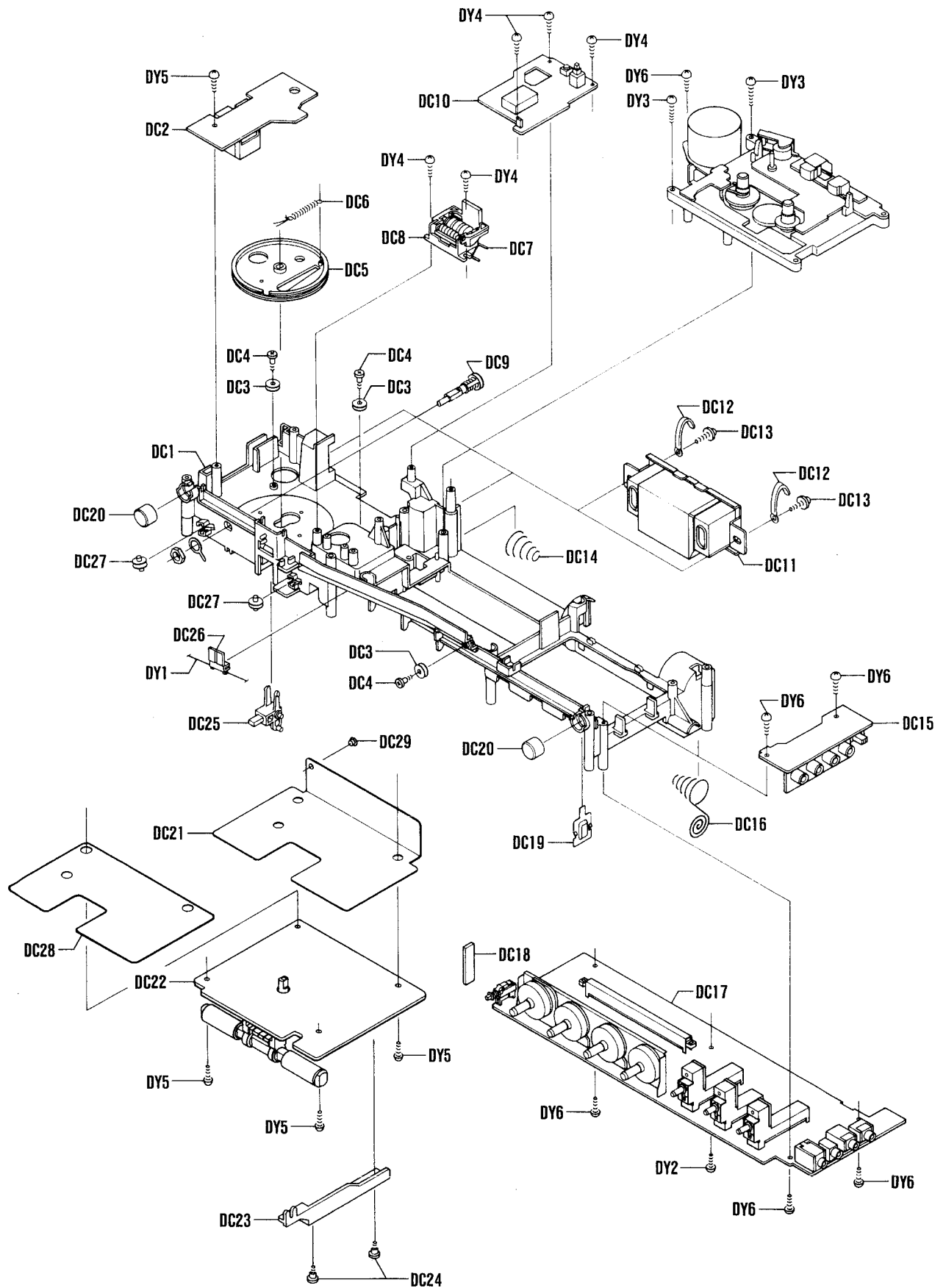
NOTES:

- Parts order must contain Model Number, Part Number and Description.
- Ordering quantity of screws and resistors must be multiple of 10 pcs.

CABINET EXPLODED VIEW



RADIO CHASSIS EXPLODED VIEW

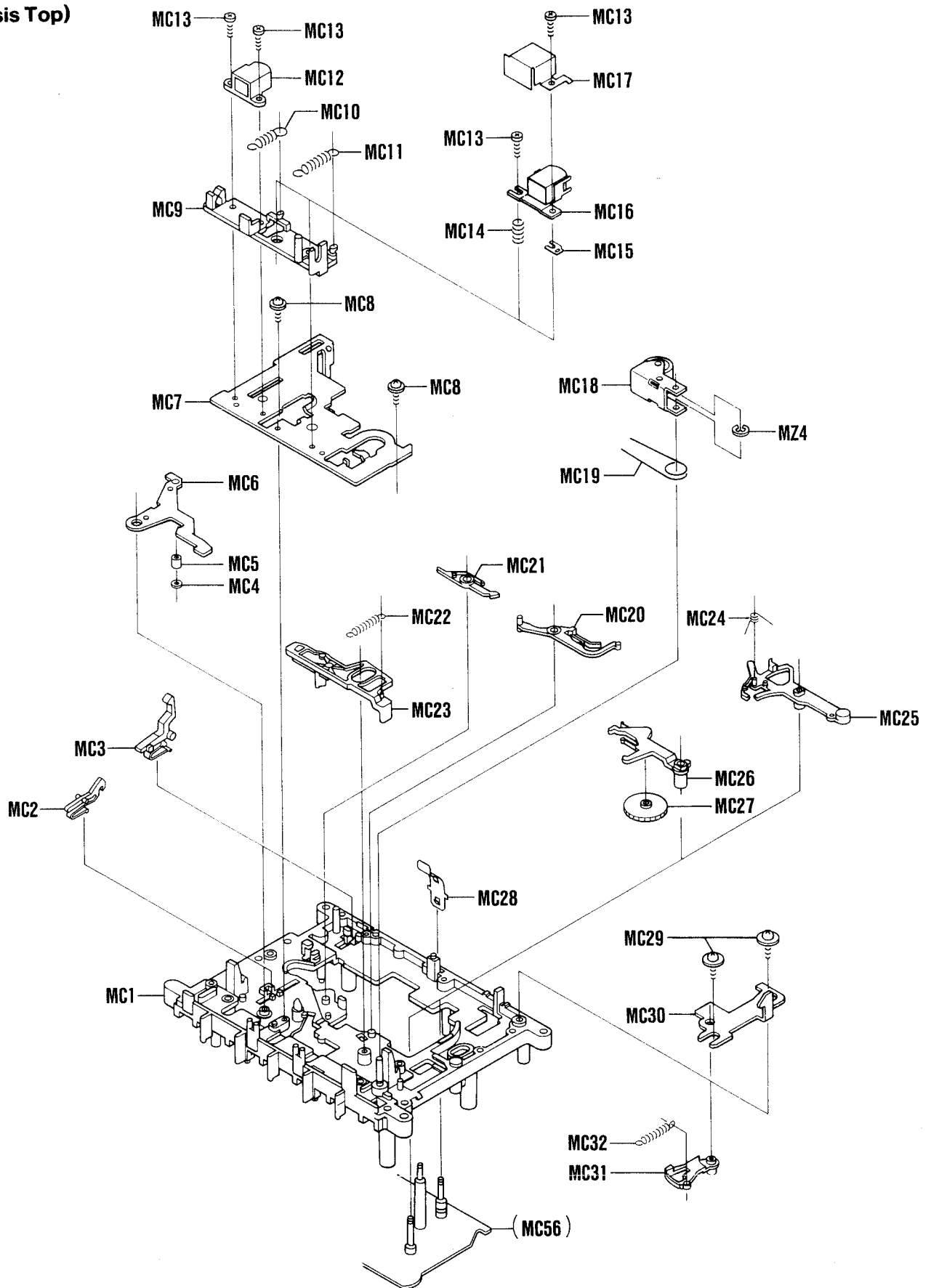


MECHANISM PARTS LIST

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
MECHANISM				MC63	141 2 8559 04700	Spring, Pulley	1
C901	CD1 0 7160 0001V	Electrolytic 100μF 16V	1	MC64	141 2 4729 01900	Lug	1
MC1	141 0 3119 21900	Chassis Assy	1	MC65	141 2 5519 45600	ASO Gear	1
MC2	141 2 7419 81300	Cassette Lever	1	MC66	141 2 4539 28001	Washer	1
MC3	141 2 8419 11700	Interlock Lever	1	MC67	141 2 7419 80200	Rewind Lever	1
MC4	141 2 4539 17500	Washer	1	MC68	141 2 5319 11600	Supply Reel Gear	1
MC5	141 2 8259 11100	Roller Rec.	1	MC69	141 2 8519 67900	Spring, Reel	1
MC6	141 0 7419 36900	Lever Rec. Base Assy	1	MC70	141 2 8559 00100	Spring, Supply	2
MC7	141 2 7319 52801	Slide Base	1	MC71	141 2 5319 11700	Fin Reel Supply	1
MC8	141 2 4219 13201	Screw, w/Washer	2	MC72	141 2 4539 15700	Washer	2
MC9	141 2 3529 35900	Spacer, Head	1	MC73	141 0 5519 09600	Friction Assy	1
MC10	141 2 8519 64900	Spring, Gear Arm	2	MC74	141 2 7439 30000	Fastwind Arm	1
MC11	141 2 8549 18700	Spring, Base Slide	1	MC75	141 2 5519 45100	Fastwind Gear	1
MC12	4 2429 71990	Erase Head [HD2]	1	MC76	141 2 5319 11500	Take-up Reel Gear	1
MC13	141 2 4219 30300	Screw, Bind Hd. +M2.0x6.0	4	MC77	141 2 8529 12700	Spring, F.FWD Arm	1
MC14	141 2 8559 00201	Spring, Head	1	MC78	4 2319 74362	Leaf Switch (Power) [S13]	1
MC15	141 2 3529 18102	Spacer, Head	1	MC79	141 2 7319 53600	Lock Plate	1
MC16	4 2429 71676	R/P Head [HD1]	1	MC80	141 2 7319 53000	Stop Rod	1
MC17	141 2 3229 40600	Shield Plate Head	1	MC81	141 2 7319 53100	Pause Rod	1
MC18	141 0 5419 02201	Pinch Roller Assy	1	MC82	141 2 7319 53200	Rod Fastwind	1
MC19	141 2 8529 12500	Spring, Pinch Roller	1	MC83	141 2 7319 53300	Rod Rewind	1
MC20	141 2 7149 05700	Brake, Take-up Reel	1	MC84	141 2 8529 14300	Spring, Seesaw	1
MC21	141 2 7149 05600	Brake, Supply Reel	1	MC85	141 2 7319 53400	Play Rod	1
MC22	141 2 8549 05500	Spring, Stop Lever	1	MC86	141 2 7319 53500	Record Rod	1
MC23	141 2 7419 80700	Slide Base Lever	1	MC87	141 2 8529 12600	Spring, Gear Actate Play	1
MC24	141 2 8529 13200	Spring, Sensor	1	MC88	141 2 5519 45800	Actuate Gear Pause	1
MC25	141 2 7419 80100	ASO Lever	1	MC89	141 2 7319 54900	ASO Rod	1
MC26	141 2 7439 30100	Take-up Arm	1	MC90	141 2 7319 52900	Switch Rod	1
MC27	141 2 5519 45300	Take-up Gear	1	MC91	141 2 5519 45900	Actuate Play Gear	1
MC28	141 2 8539 47900	Spring, Cassette	1	MC92	141 2 7419 80400	Record Lock Lever	1
MC29	141 2 4219 05400	Screw, w/Washer	2	MC93	141 2 6139 14300	Frame Rod	1
MC30	141 2 7319 55800	Plate Eject	1	MC94	141 2 8529 12800	Spring, Pause Latch	1
MC31	141 2 7419 81100	Stop Eject Lever	1	MC95	141 2 8529 12401	Spring, F.FWD Rod	3
MC32	141 2 8549 18500	Spring, Eject	1	MC96	141 2 8539 46700	Spring, Plate Lock	1
MC33	141 2 7419 81500	Lever Lock Button	1	MC97	141 2 7419 81000	Record Stop Lever	1
MC34	141 2 7419 82700	Plunger Lever	1	MC98	141 2 7419 80900	Spring, Record Stop Lever	1
MC35	141 2 8549 04400	Spring, Interlock	1	MC99	141 2 8529 14200	Spring, Record Stop	1
MC36	141 2 5529 17000	Spindle Lever	1	MC100	141 2 7419 80800	Cue Review Switch Lever	1
MC37	4 5279 71221	Motor [M1]	1	MC101	141 2 7419 80500	Play Start Lever	1
MC38	141 2 3519 62800	Flywheel Support	1	MC102	141 2 7419 80600	Pause Start Lever	1
MC39	141 2 4459 11800	Cushion, Motor	3	MC103	141 2 8529 13300	Spring, Pause Lever	1
MC40	141 2 4219 30100	Screw	3	MC104	4 2319 74550	Leaf Switch (Play Mute) [S11]	1
MC41	4 2649 70490	Solenoid [SL1]	1	MC105	4 2319 71863	Leaf Switch (AMSS) [S10]	1
MC42	141 2 8419 12800	R/P Switch Lever	1	MC106	4 2319 74362	Leaf Switch (OSC) [S12]	1
MC43	141 2 7539 25200	Post R/P Switch Lever	1	MZ1	101 3 1302 00811	Screw, Pan Hd. +M2.0x8	1
MC44	141 2 4729 04100	Lug	1	MZ2	101 3 1702 00811	Screw, Bind Hd. +M2.0x8	2
MC45	141 2 7419 81400	Record Arm	1	MZ3	112 3 1301 20082	E Ring M1.2	1
MC46	141 2 8549 19600	Spring, Record	1	MZ4	112 3 1302 00082	E Ring M2.0	1
MC47	141 2 7419 81200	Record Select Lever	1	MZ5	112 3 1303 00082	E Ring M3.0	1
MC48	141 2 4219 23000	Screw +M2.0x9	1	MZ6	143 3 1202 00818	Screw, Flat Hd. Tapping-B +M2.0x8	1
MC49	141 2 5739 06300	Flywheel Thrust	1	MZ7	143 3 1702 00618	Screw, Bind Hd. Tapping-B +M2.0x6	6
MC50	141 2 5649 21300	Drive Belt	1	MZ8	143 3 1702 00818	Screw, Bind Hd. Tapping-B +M2.0x8	2
MC51	141 2 5649 21200	Wind Belt	1	MZ9	143 3 1702 60818	Screw, Bind Hd. Tapping-B +M2.6x8	3
MC52	141 2 5219 14500	Flywheel Capstan	1	NOTES:			
MC53	141 2 5519 45200	Flywheel Gear	1	1. Parts order must contain Model Number, Part Number and Description.			
MC54	141 2 4539 20900	Washer	1	2. Ordering quantity of screws and resistors must be multiple of 10 pcs.			
MC55	141 2 4539 17600	Washer	1				
MC56	141 0 3119 21800	Plate Chassis Assy	1				
MC57	141 2 7419 82800	Shut-off Lever Switch	1				
MC58	141 2 3529 36100	Spacer, Lever	1				
MC59	141 2 4219 03000	Screw +M2.0x3.0	1				
MC60	141 2 8519 61100	Spring, Slide	1				
MC61	141 2 5519 45700	Pulley Friction	1				
MC62	141 2 4539 27601	Washer	4				

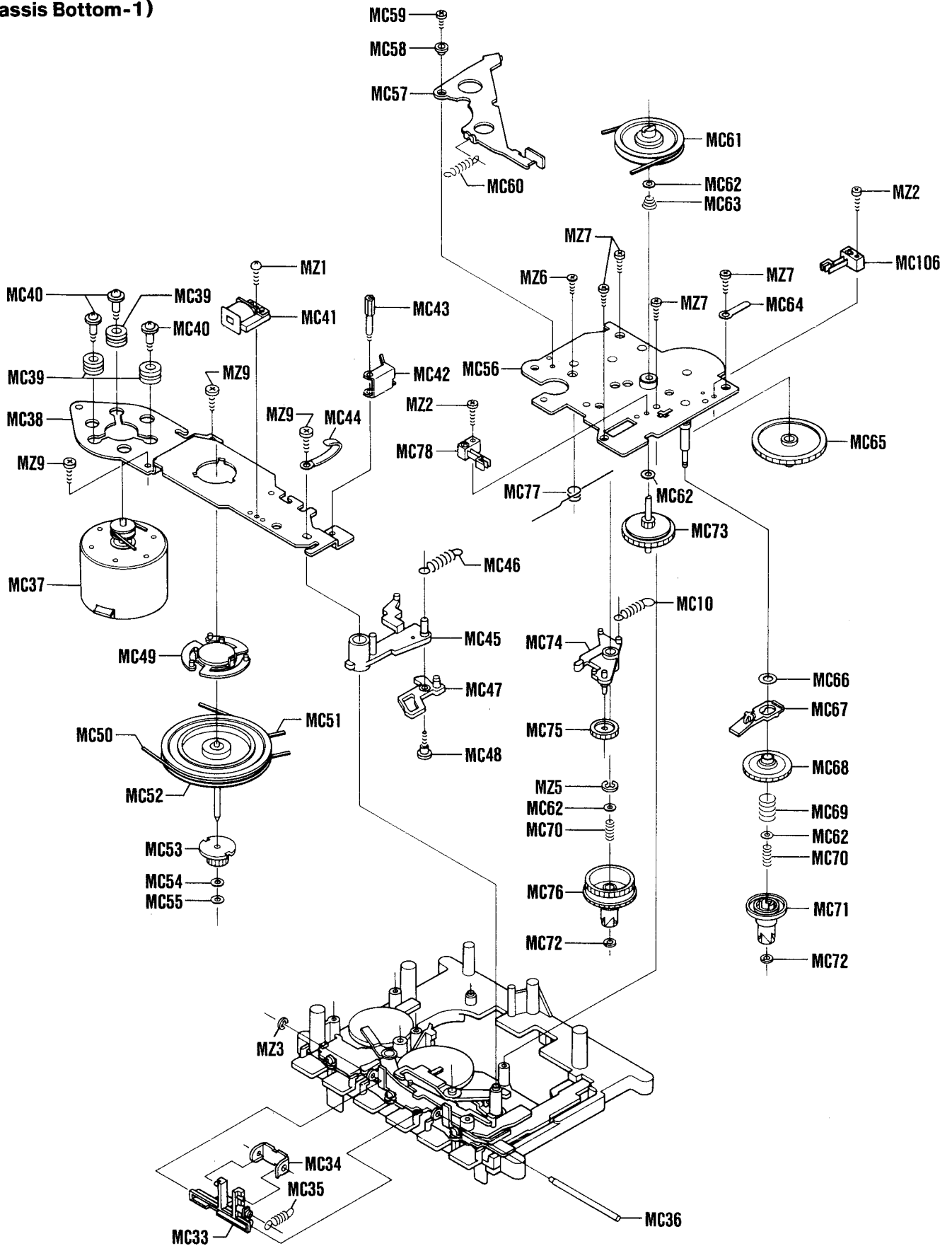
MECHANISM EXPLODED VIEW

(Chassis Top)



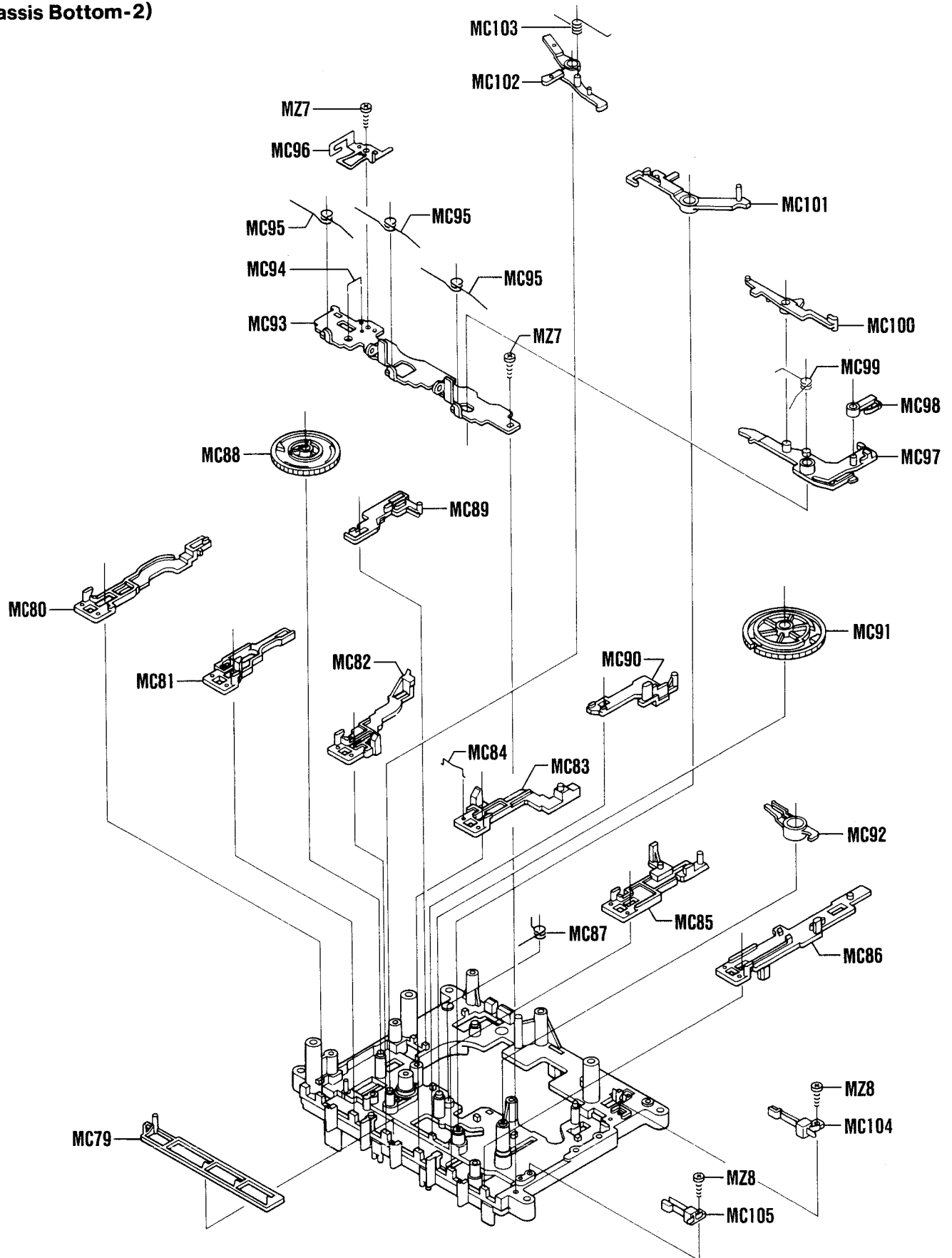
MECHANISM EXPLODED VIEW (Continued)

(Chassis Bottom-1)



MECHANISM EXPLODED VIEW (Continued)

(Chassis Bottom-2)



P.C.BOARD PARTS LIST

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
AMPLIFIER P.C.B. ASSY				Q312	4 2039 70432	Transistor, 2SC 1815	1
PCB1	141 0 1939 00751	Amplifier P.C.B. Assy	1	Q313	4 2039 70760	Transistor, 2SC 1583	1
	4 2539 70240	Bead Ferrite	1	D101	4 2029 71440	Diode, 1SS 95	1
103	3 1303 01011	Screw, Pan Hd. Tapping-2, +M3.0x10	2	D102	4 2029 71440	Diode, 1SS 95	1
141	2 3689 09500	Radiator IC (for IC302)	1	D103	202 5 9110 18820	Diode, 1S 188	1
141	2 4729 04700	Staple, 10mm	1	D104	4 2029 71440	Diode, 1SS 95	1
141	2 4729 05000	Staple, 5mm	44	D201	4 2029 71440	Diode, 1SS 95	1
141	2 4729 07900	Staple, 7.5mm	1	D202	4 2029 71440	Diode, 1SS 95	1
CN1	4 2359 75850	Connector 4P Assy	1	D203	202 5 9110 18820	Diode, 1S 188	1
CN3	4 2369 74000	Plug 6P	1	D204	4 2029 71440	Diode, 1SS 95	1
CN4	4 2369 73840	Connector 3P	1	D301	202 5 3200 03311	Zener Diode, GZA3.3	1
CN5	4 2369 73140	Connector 4P	1	D302	202 5 3200 03311	Zener Diode, GZA3.3	1
CN6	4 2369 73990	Plug 4P	1	D303	4 2029 72470	Zener Diode, MTZ7.5	1
S2	4 2319 75711	Push Switch (DOLBY NR)	1	D304	4 2029 71440	Diode, 1SS 95	1
S3	4 2319 75703	Slide Switch (Record/Playback)	1	D305	4 2029 71440	Diode, 1SS 95	1
S4	4 2319 72463	Lever Switch (Tape Select)	1	D306	4 2029 71440	Diode, 1SS 95	1
S5	4 2319 72463	Lever Switch (Mode)	1	D307	4 2029 71440	Diode, 1SS 95	1
S6	4 2319 75342	Lever Switch (Function)	1	D308	4 2029 71440	Diode, 1SS 95	1
J1	4 2359 71780	Jack 1P (Mixing Mike/Mike, Left)	1	D310	202 5 9600 44610	Diode, DS 446	1
J2	4 2359 73470	1P Jack (Mike, Right)	1	D311	4 2029 71440	Diode, 1SS 95	1
J3	4 2359 75701	Jack 5P with Switch (Headphones 1)	1	C101	CT2 2 3160 M00AV	Tantalum 0.022μF 16V ±20%	1
J4	4 2359 75800	Jack 5P (Headphones 2/Ext. Speaker)	1	C102	CC4 7 2500 KE00C	Ceramic 0.0047μF 50V ±10%	1
L101	4 2729 70550	Coil Filter	1	C103	CD4 7 5160 0001V	Electrolytic 4.7μF 16V	1
L102	4 2729 70541	Coil Filter	1	C104	CC8 2 1500 KE00C	Ceramic 820pF 50V ±10%	1
L103	4 2729 70580	Coil (12mH)	1	C105	CC4 7 1500 KE00C	Ceramic 470pF 50V ±10%	1
L104	4 2559 70120	Coil (33mH)	1	C106	CD1 0 7100 0001V	Electrolytic 100μF 10V	1
L201	4 2729 70550	Coil Filter	1	C107	CD1 0 6160 0001V	Electrolytic 10μF 16V	1
L202	4 2729 70541	Coil Filter	1	C108	CM3 9 3500 K00SV	Mylar 0.039μF 50V ±10%	1
L203	4 2729 70580	Coil (12mH)	1	C109	CM2 7 3500 K00SV	Mylar 0.027μF 50V ±10%	1
L204	4 2559 70120	Coil (33mH)	1	C110	CD3 3 4500 0001V	Electrolytic 0.33μF 50V	1
L301	4 2539 70301	Micro Inductor (100μH)	1	C111	CC4 7 2500 KE00C	Ceramic 0.0047μF 50V ±10%	1
T301	4 2589 71820	OSC Trans	1	C112	CM5 6 2500 K00SV	Mylar 0.0056μF 50V ±10%	1
VR1	4 2229 73981	Rotary Volume Unit	1	C113	CD1 0 6160 0001V	Electrolytic 10μF 16V	1
P101	4 2229 73885	Potentiometer (B-300Ω)	1	C114	CD2 2 7160 0001V	Electrolytic 220μF 16V	1
P102	4 2229 73880	Potentiometer (B-20kΩ)	1	C115	CM2 7 3500 K00SV	Mylar 0.027μF 50V ±10%	1
P103	4 2229 73142	Potentiometer (B-50kΩ)	1	C116	CD1 0 6160 0001V	Electrolytic 10μF 16V	1
P201	4 2229 73885	Potentiometer (B-300Ω)	1	C117	CC3 9 2500 KE00C	Ceramic 0.0039μF 50V ±10%	1
P202	4 2229 73880	Potentiometer (B-20kΩ)	1	C118	CD4 7 4500 0001V	Electrolytic 0.47μF 50V	1
P203	4 2229 73142	Potentiometer (B-50kΩ)	1	C119	CA3 3 4100 K000V	Aluminum 0.33μF 10V ±10%	1
IC101	4 2069 71650	IC, NE 649 N	1	C120	CA1 0 4100 K000V	Aluminum 0.1μF 10V ±10%	1
IC201	4 2069 71650	IC, NE 649 N	1	C121	CD1 0 6160 0001V	Electrolytic 10μF 16V	1
IC301	4 2069 71870	IC, BA 3302	1	C122	CM4 7 3500 K00SV	Mylar 0.047μF 50V ±10%	1
IC302	206 5 1984 50510	IC, LA 4505	1	C123	CD1 0 6160 0002V	Electrolytic 10μF 16V	1
Q101	4 2039 70432	Transistor, 2SC 1815	1	C124	CD1 0 6160 0001V	Electrolytic 10μF 16V	1
Q102	4 2039 70432	Transistor, 2SC 1815	1	C125	CD1 0 7100 0001V	Electrolytic 100μF 10V	1
Q103	203 5 4921 01275	Transistor, 2SD 1012	1	C126	CD3 3 4500 0001V	Electrolytic 0.33μF 50V	1
Q104	203 5 5251 57179	Transistor, 2SC 1571	1	C127	CM1 0 3500 K00SV	Mylar 0.01μF 50V ±10%	1
Q105	203 5 4921 01275	Transistor, 2SD 1012	1	C128	CM2 2 3500 K00SV	Mylar 0.022μF 50V ±10%	1
Q201	4 2039 70432	Transistor, 2SC 1815	1	C129	CM4 7 3500 K00SV	Mylar 0.047μF 50V ±10%	1
Q202	4 2039 70432	Transistor, 2SC 1815	1	C130	CC2 2 1500 KE00C	Ceramic 220pF 50V ±10%	1
Q203	203 5 4921 01275	Transistor, 2SD 1012	1	C131	CC2 2 1500 KE00C	Ceramic 220pF 50V ±10%	1
Q204	203 5 5251 57179	Transistor, 2SC 1571	1	C132	CC3 9 2500 KE00C	Ceramic 0.0039μF 50V ±10%	1
Q205	203 5 4921 01275	Transistor, 2SD 1012	1	C133	CM2 2 3500 K00SV	Mylar 0.022μF 50V ±10%	1
Q301	203 5 4570 73460	Transistor, 2SD 734	1	C135	CM3 3 3500 K00SV	Mylar 0.033μF 50V ±10%	1
Q302	203 5 6900 40060	Transistor, 2SD 400	1	C136	CM1 0 4500 K00SV	Mylar 0.1μF 50V ±10%	1
Q303	203 5 6800 65960	Transistor, 2SA 659	1	C137	CC1 2 2500 KE00C	Ceramic 0.0012μF 50V ±10%	1
Q304	203 5 4570 73460	Transistor, 2SD 734	1	C138	CM6 8 3500 K00SV	Mylar 0.068μF 50V ±10%	1
Q305	203 5 4570 73460	Transistor, 2SD 734	1	C139	CC1 0 2500 KE00C	Ceramic 0.001μF 50V ±10%	1
Q306	4 2039 70432	Transistor, 2SC 1815	1	C140	CC1 0 2500 KE00C	Ceramic 0.001μF 50V ±10%	1
Q307	203 5 5251 57179	Transistor, 2SC 1571	1	C141	CD4 7 6100 0001V	Electrolytic 47μF 10V	1
Q308	203 5 5251 57179	Transistor, 2SC 1571	1	C142	CC4 7 0500 KD00C	Ceramic 47pF 50V ±10%	1
Q309	4 2039 70432	Transistor, 2SC 1815	1	C143	CM1 0 3500 K00SV	Mylar 0.01μF 50V ±10%	1
Q310	4 2039 70432	Transistor, 2SC 1815	1	C144	CD1 0 7100 0001V	Electrolytic 100μF 10V	1
Q311	4 2039 70432	Transistor, 2SC 1815	1	C145	CM1 5 4500 K00SV	Mylar 0.15μF 50V ±10%	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty	
C146	4 2239 70650	Capacitor	2200μF 10V	1	C317	CD1 0 5500 0001V	Electrolytic 1μF 50V	1
C147	CC1 0 2500 KE00C	Ceramic	0.001μF 50V ±10%	1	C318	CP5 6 2101 J000V	Polypropylen 0.0056μF 100V ±5%	1
C201	CT2 2 3160 M00AV	Tantalum	0.022μF 16V ±20%	1	C319	CA1 0 5250 X000V	Aluminum 1μF 25V +40,-20%	1
C202	CC4 7 2500 KE00C	Ceramic	0.0047μF 50V ±10%	1	C320	CD4 7 5160 0001V	Electrolytic 4.7μF 16V	1
C203	CD4 7 5160 0001V	Electrolytic	4.7μF 16V	1	C321	CC5 6 2500 KE00C	Ceramic 0.0056μF 50V ±10%	1
C204	CC8 2 1500 KE00C	Ceramic	820pF 50V ±10%	1	C322	CD1 0 6160 0001V	Electrolytic 10μF 16V	1
C205	CC4 7 1500 KE00C	Ceramic	470pF 50V ±10%	1	C323	CD1 0 6160 0001V	Electrolytic 10μF 16V	1
C206	CD1 0 7100 0001V	Electrolytic	100μF 10V	1	C324	CC1 0 2500 KE00C	Ceramic 0.001μF 50V ±10%	1
C207	CD1 0 6160 0001V	Electrolytic	10μF 16V	1	C325	CD2 2 6160 0001V	Electrolytic 22μF 16V	1
C208	CM3 9 3500 K00SV	Mylar	0.039μF 50V ±10%	1	C326	CD4 7 5350 0002V	Electrolytic 4.7μF 35V	1
C209	CM2 7 3500 K00SV	Mylar	0.027μF 50V ±10%	1	C327	CD1 0 5500 0002V	Electrolytic 1μF 50V	1
C210	CD3 3 4500 0001V	Electrolytic	0.33μF 50V	1	C328	CC4 7 0500 KD00C	Ceramic 47pF 50V ±10%	1
C211	CC4 7 2500 KE00C	Ceramic	0.0047μF 50V ±10%	1	C329	CD2 2 4500 0001V	Electrolytic 0.22μF 50V	1
C212	CM5 6 2500 K00SV	Mylar	0.0056μF 50V ±10%	1	C330	CD2 2 4500 0001V	Electrolytic 0.22μF 50V	1
C213	CD1 0 6160 0001V	Electrolytic	10μF 16V	1	C331	CD1 0 6160 0001V	Electrolytic 10μF 16V	1
C214	CD2 2 7160 0001V	Electrolytic	220μF 16V	1	C332	CI2 2 3250 KF00C	Boundary 0.022μF 25V ±10%	1
C215	CM2 7 3500 K00SV	Mylar	0.027μF 50V ±10%	1	C333	CD1 0 7100 0001V	Electrolytic 100μF 10V	1
C216	CD1 0 6160 0001V	Electrolytic	10μF 16V	1	C334	CC1 0 2500 KE00C	Ceramic 0.001μF 50V ±10%	1
C217	CC3 9 2500 KE00C	Ceramic	0.0039μF 50V ±10%	1	C335	CC1 0 2500 KE00C	Ceramic 0.001μF 50V ±10%	1
C218	CD4 7 4500 0001V	Electrolytic	0.47μF 50V	1	C336	CC1 0 2500 KE00C	Ceramic 0.001μF 50V ±10%	1
C219	CA3 3 4100 K000V	Aluminum	0.33μF 10V ±10%	1	R101	RP1 0 2121 JH000	Carbon 1kΩ 1/8W ±5%	1
C220	CA1 0 4100 K000V	Aluminum	0.1μF 10V ±10%	1	R102	RP5 6 2121 JH000	Carbon 5.6kΩ 1/8W ±5%	1
C221	CD1 0 6160 0001V	Electrolytic	10μF 16V	1	R103	RP4 7 2121 JH000	Carbon 4.7kΩ 1/8W ±5%	1
C222	CM4 7 3500 K00SV	Mylar	0.047μF 50V ±10%	1	R104	RP1 0 0121 JH000	Carbon 10Ω 1/8W ±5%	1
C223	CD1 0 6160 0002V	Electrolytic	10μF 16V	1	R105	RP8 2 3121 JH000	Carbon 82kΩ 1/8W ±5%	1
C224	CD1 0 6160 0001V	Electrolytic	10μF 16V	1	R106	RP1 6 1121 JH000	Carbon 160Ω 1/8W ±5%	1
C225	CD1 0 7100 0001V	Electrolytic	100μF 10V	1	R107	RP1 0 3121 JH000	Carbon 10kΩ 1/8W ±5%	1
C226	CD3 3 4500 0001V	Electrolytic	0.33μF 50V	1	R108	RP1 0 4121 JH000	Carbon 100kΩ 1/8W ±5%	1
C227	CM1 0 3500 K00SV	Mylar	0.01μF 50V ±10%	1	R109	RP3 3 2121 JH000	Carbon 3.3kΩ 1/8W ±5%	1
C228	CM2 2 3500 K00SV	Mylar	0.022μF 50V ±10%	1	R110	RP2 2 3121 JH000	Carbon 22kΩ 1/8W ±5%	1
C229	CM4 7 3500 K00SV	Mylar	0.047μF 50V ±10%	1	R111	RP2 2 2121 JH000	Carbon 2.2kΩ 1/8W ±5%	1
C230	CC2 2 1500 KE00C	Ceramic	220pF 50V ±10%	1	R112	RP3 3 2121 JH000	Carbon 3.3kΩ 1/8W ±5%	1
C231	CC2 2 1500 KE00C	Ceramic	220pF 50V ±10%	1	R113	RP1 0 4121 JH000	Carbon 100kΩ 1/8W ±5%	1
C232	CC3 9 2500 KE00C	Ceramic	0.0039μF 50V ±10%	1	R114	RP2 7 3121 JH000	Carbon 27kΩ 1/8W ±5%	1
C233	CM2 2 3500 K00SV	Mylar	0.022μF 50V ±10%	1	R115	RP1 0 2121 JH000	Carbon 1kΩ 1/8W ±5%	1
C235	CM3 3 3500 K00SV	Mylar	0.033μF 50V ±10%	1	R116	RP1 0 4121 JH000	Carbon 100kΩ 1/8W ±5%	1
C236	CM1 0 4500 K00SV	Mylar	0.1μF 50V ±10%	1	R117	RP1 0 3121 JH000	Carbon 10kΩ 1/8W ±5%	1
C237	CC1 2 2500 KE00C	Ceramic	0.0012μF 50V ±10%	1	R118	RP4 7 2121 JH000	Carbon 4.7kΩ 1/8W ±5%	1
C238	CM6 8 3500 K00SV	Mylar	0.068μF 50V ±10%	1	R119	RP1 0 2121 JH000	Carbon 1kΩ 1/8W ±5%	1
C239	CC1 0 2500 KE00C	Ceramic	0.001μF 50V ±10%	1	R120	RP1 8 3121 JH000	Carbon 18kΩ 1/8W ±5%	1
C240	CC1 0 2500 KE00C	Ceramic	0.001μF 50V ±10%	1	R121	RP5 6 1121 JH000	Carbon 560Ω 1/8W ±5%	1
C241	CD4 7 6100 0001V	Electrolytic	47μF 10V	1	R122	RP4 7 3121 JH000	Carbon 47kΩ 1/8W ±5%	1
C242	CC4 7 0500 KD00C	Ceramic	47pF 50V ±10%	1	R123	RP1 8 1121 JH000	Carbon 180Ω 1/8W ±5%	1
C243	CM1 0 3500 K00SV	Mylar	0.01μF 50V ±10%	1	R124	RP1 0 4121 JH000	Carbon 100kΩ 1/8W ±5%	1
C244	CD1 0 7100 0001V	Electrolytic	100μF 10V	1	R125	RP1 0 4121 JH000	Carbon 100kΩ 1/8W ±5%	1
C245	CM1 5 4500 K00SV	Mylar	0.15μF 50V ±10%	1	R126	RP3 3 2121 JH000	Carbon 3.3kΩ 1/8W ±5%	1
C246	4 2239 70650	Capacitor	2200μF 10V	1	R128	RP1 0 2121 JH000	Carbon 1kΩ 1/8W ±5%	1
C247	CC1 0 2500 KE00C	Ceramic	0.001μF 50V ±10%	1	R129	RP2 7 4121 JH000	Carbon 270kΩ 1/8W ±5%	1
C301	CD3 3 7100 0003V	Electrolytic	330μF 10V	1	R130	RP1 8 4121 JH000	Carbon 180kΩ 1/8W ±5%	1
C302	CD4 7 7100 0001V	Electrolytic	470μF 10V	1	R131	RP3 3 2121 JH000	Carbon 3.3kΩ 1/8W ±5%	1
C303	CD4 7 7160 0001V	Electrolytic	470μF 16V	1	R132	RP1 0 2121 JH000	Carbon 1kΩ 1/8W ±5%	1
C304	CD2 2 7160 0001V	Electrolytic	220μF 16V	1	R133	RP2 2 2121 JH000	Carbon 2.2kΩ 1/8W ±5%	1
C305	CD2 2 7160 0001V	Electrolytic	220μF 16V	1	R134	RP5 6 4121 JH000	Carbon 560kΩ 1/8W ±5%	1
C306	CD2 2 7100 0001V	Electrolytic	220μF 10V	1	R135	RP1 0 1121 JH000	Carbon 100Ω 1/8W ±5%	1
C307	4 2239 71130	Capacitor	2200μF 16V	1	R136	RP1 0 3121 JH000	Carbon 10kΩ 1/8W ±5%	1
C308	CD1 0 5500 0001V	Electrolytic	1μF 50V	1	R137	RP8 2 2121 JH000	Carbon 8.2kΩ 1/8W ±5%	1
C309	CD2 2 7160 0001V	Electrolytic	220μF 16V	1	R138	RP1 8 1121 JH000	Carbon 180Ω 1/8W ±5%	1
C310	CD1 0 7100 0001V	Electrolytic	100μF 10V	1	R139	RP3 3 2121 JH000	Carbon 3.3kΩ 1/8W ±5%	1
C311	CD4 7 6100 0001V	Electrolytic	47μF 10V	1	R140	RP6 8 1121 JH000	Carbon 680Ω 1/8W ±5%	1
C312	CD1 0 4500 0001V	Electrolytic	0.1μF 50V	1	R141	RP2 2 2121 JH000	Carbon 2.2kΩ 1/8W ±5%	1
C313	CC4 7 2500 KE00C	Ceramic	0.0047μF 50V ±10%	1	R142	RP1 8 2121 JH000	Carbon 1.8kΩ 1/8W ±5%	1
C314	CC4 7 2500 KE00C	Ceramic	0.0047μF 50V ±10%	1	R143	RP3 3 2121 JH000	Carbon 3.3kΩ 1/8W ±5%	1
C315	CM8 2 2500 K00SV	Mylar	0.0082μF 50V ±10%	1	R144	RP1 2 3121 JH000	Carbon 12kΩ 1/8W ±5%	1
C316	CM3 3 3500 K00SV	Mylar	0.033μF 50V ±10%	1	R145	RP1 0 2121 JH000	Carbon 1kΩ 1/8W ±5%	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
R146	RP2 2 3121 JH000	Carbon 22kΩ 1/8W ±5%	1	R252	RP1 8 2121 JH000	Carbon 1.8kΩ 1/8W ±5%	1
R147	RP1 0 3121 JH000	Carbon 10kΩ 1/8W ±5%	1	R253	RP5 6 2121 JH000	Carbon 5.6kΩ 1/8W ±5%	1
R148	RP2 2 2121 JH000	Carbon 2.2kΩ 1/8W ±5%	1	R254	RP2 2 2121 JH000	Carbon 2.2kΩ 1/8W ±5%	1
R149	RP1 0 3121 JH000	Carbon 10kΩ 1/8W ±5%	1	R255	RP8 2 2121 JH000	Carbon 8.2kΩ 1/8W ±5%	1
R151	RP8 2 1121 JH000	Carbon 820Ω 1/8W ±5%	1	R256	RP3 3 1121 JH000	Carbon 330Ω 1/8W ±5%	1
R152	RP1 8 2121 JH000	Carbon 1.8kΩ 1/8W ±5%	1	R257	RP4 7 2121 JH000	Carbon 4.7kΩ 1/8W ±5%	1
R153	RP5 6 2121 JH000	Carbon 5.6kΩ 1/8W ±5%	1	R258	RP4 7 2121 JH000	Carbon 4.7kΩ 1/8W ±5%	1
R154	RP2 2 2121 JH000	Carbon 2.2kΩ 1/8W ±5%	1	R259	RP1 0 1121 JH000	Carbon 100Ω 1/8W ±5%	1
R155	RP8 2 2121 JH000	Carbon 8.2kΩ 1/8W ±5%	1	R260	RP3 0 3121 JH000	Carbon 30kΩ 1/8W ±5%	1
R156	RP3 3 1121 JH000	Carbon 330Ω 1/8W ±5%	1	R261	RH4 7 0501 JZ000	Metal 47Ω 1/2W ±5%	1
R157	RP4 7 2121 JH000	Carbon 4.7kΩ 1/8W ±5%	1	R301	RP2 2 1121 JH000	Carbon 220Ω 1/8W ±5%	1
R158	RP4 7 2121 JH000	Carbon 4.7kΩ 1/8W ±5%	1	R302	RH1 0 0501 JZ000	Metal 10Ω 1/2W ±5%	1
R159	RP1 0 1121 JH000	Carbon 100Ω 1/8W ±5%	1	R303	RP4 7 1121 JH000	Carbon 470Ω 1/8W ±5%	1
R160	RP3 0 3121 JH000	Carbon 30kΩ 1/8W ±5%	1	R304	RP4 7 1121 JH000	Carbon 470Ω 1/8W ±5%	1
R161	RH4 7 0501 JZ000	Metal 47Ω 1/2W ±5%	1	R305	RP4 7 2121 JH000	Carbon 4.7kΩ 1/8W ±5%	1
R201	RP1 0 2121 JH000	Carbon 1kΩ 1/8W ±5%	1	R306	RP3 3 2121 JH000	Carbon 3.3kΩ 1/8W ±5%	1
R202	RP5 6 2121 JH000	Carbon 5.6kΩ 1/8W ±5%	1	R307	RP2 2 2121 JH000	Carbon 2.2kΩ 1/8W ±5%	1
R203	RP4 7 2121 JH000	Carbon 4.7kΩ 1/8W ±5%	1	R308	RP4 7 3121 JH000	Carbon 47kΩ 1/8W ±5%	1
R204	RP1 0 0121 JH000	Carbon 10Ω 1/8W ±5%	1	R309	RP2 2 3121 JH000	Carbon 22kΩ 1/8W ±5%	1
R205	RP8 2 3121 JH000	Carbon 82kΩ 1/8W ±5%	1	R310	RP1 0 4121 JH000	Carbon 100kΩ 1/8W ±5%	1
R206	RP1 6 1121 JH000	Carbon 160Ω 1/8W ±5%	1	R311	RP1 2 3121 JH000	Carbon 12kΩ 1/8W ±5%	1
R207	RP1 0 3121 JH000	Carbon 10kΩ 1/8W ±5%	1	R312	RP1 5 2121 JH000	Carbon 1.5kΩ 1/8W ±5%	1
R208	RP1 0 4121 JH000	Carbon 100kΩ 1/8W ±5%	1	R313	RP1 0 3121 JH000	Carbon 10kΩ 1/8W ±5%	1
R209	RP3 3 2121 JH000	Carbon 3.3kΩ 1/8W ±5%	1	R314	RP2 2 2121 JH000	Carbon 2.2kΩ 1/8W ±5%	1
R210	RP2 2 3121 JH000	Carbon 22kΩ 1/8W ±5%	1	R315	RP2 2 4121 JH000	Carbon 220kΩ 1/8W ±5%	1
R211	RP2 2 2121 JH000	Carbon 2.2kΩ 1/8W ±5%	1	R316	RP3 3 4121 JH000	Carbon 330kΩ 1/8W ±5%	1
R212	RP3 3 2121 JH000	Carbon 3.3kΩ 1/8W ±5%	1	R317	RP1 5 2121 JH000	Carbon 1.5kΩ 1/8W ±5%	1
R213	RP1 0 4121 JH000	Carbon 100kΩ 1/8W ±5%	1	R318	RH4 7 0501 JZ000	Metal 47Ω 1/2W ±5%	1
R214	RP2 7 3121 JH000	Carbon 27kΩ 1/8W ±5%	1	R319	RH6 8 0501 JZ000	Metal 68Ω 1/2W ±5%	1
R215	RP1 0 2121 JH000	Carbon 1kΩ 1/8W ±5%	1	R320	RP2 2 3121 JH000	Carbon 22kΩ 1/8W ±5%	1
R216	RP1 0 4121 JH000	Carbon 100kΩ 1/8W ±5%	1	R321	RP2 2 3121 JH000	Carbon 22kΩ 1/8W ±5%	1
R217	RP1 0 3121 JH000	Carbon 10kΩ 1/8W ±5%	1	R322	RP3 3 A121 JH000	Carbon 3.3Ω 1/8W ±5%	1
R218	RP4 7 2121 JH000	Carbon 4.7kΩ 1/8W ±5%	1	R323	RP3 3 A121 JH000	Carbon 3.3Ω 1/8W ±5%	1
R219	RP1 0 2121 JH000	Carbon 1kΩ 1/8W ±5%	1	R324	RD4 7 5251 JV000	Carbon 4.7MΩ 1/4W ±5%	1
R220	RP1 8 3121 JH000	Carbon 18kΩ 1/8W ±5%	1	R325	RP2 2 3121 JH000	Carbon 22kΩ 1/8W ±5%	1
R221	RP5 6 1121 JH000	Carbon 560Ω 1/8W ±5%	1	R326	RP1 0 1121 JH000	Carbon 100Ω 1/8W ±5%	1
R222	RP4 7 3121 JH000	Carbon 47kΩ 1/8W ±5%	1	R327	RP1 0 2121 JH000	Carbon 1kΩ 1/8W ±5%	1
R223	RP1 8 1121 JH000	Carbon 180Ω 1/8W ±5%	1	R328	RP2 2 1121 JH000	Carbon 220Ω 1/8W ±5%	1
R224	RP1 0 4121 JH000	Carbon 100kΩ 1/8W ±5%	1	R329	RP1 8 4121 JH000	Carbon 180kΩ 1/8W ±5%	1
R225	RP1 0 4121 JH000	Carbon 100kΩ 1/8W ±5%	1	R330	RP1 8 3121 JH000	Carbon 18kΩ 1/8W ±5%	1
R226	RP3 3 2121 JH000	Carbon 3.3kΩ 1/8W ±5%	1	R331	RP1 0 3121 JH000	Carbon 10kΩ 1/8W ±5%	1
R228	RP1 0 2121 JH000	Carbon 1kΩ 1/8W ±5%	1	R332	RP2 2 4121 JH000	Carbon 220kΩ 1/8W ±5%	1
R229	RP2 7 4121 JH000	Carbon 270kΩ 1/8W ±5%	1	R333	RP2 2 2121 JH000	Carbon 2.2kΩ 1/8W ±5%	1
R230	RP1 8 4121 JH000	Carbon 180kΩ 1/8W ±5%	1	R334	RP4 7 2121 JH000	Carbon 4.7kΩ 1/8W ±5%	1
R231	RP3 3 2121 JH000	Carbon 3.3kΩ 1/8W ±5%	1	R335	RP1 5 4121 JH000	Carbon 150kΩ 1/8W ±5%	1
R232	RP1 0 2121 JH000	Carbon 1kΩ 1/8W ±5%	1	R336	RP1 0 2121 JH000	Carbon 1kΩ 1/8W ±5%	1
R233	RP2 2 2121 JH000	Carbon 2.2kΩ 1/8W ±5%	1	R337	RP3 9 0121 JH000	Carbon 39Ω 1/8W ±5%	1
R234	RP5 6 4121 JH000	Carbon 560kΩ 1/8W ±5%	1	R338	RP4 7 2121 JH000	Carbon 4.7kΩ 1/8W ±5%	1
R235	RP1 0 1121 JH000	Carbon 100Ω 1/8W ±5%	1	R339	RP2 2 3121 JH000	Carbon 22kΩ 1/8W ±5%	1
R236	RP1 0 3121 JH000	Carbon 10kΩ 1/8W ±5%	1	R340	RP6 8 2121 JH000	Carbon 6.8kΩ 1/8W ±5%	1
R237	RP8 2 2121 JH000	Carbon 8.2kΩ 1/8W ±5%	1	R341	RP4 7 2121 JH000	Carbon 4.7kΩ 1/8W ±5%	1
R238	RP1 8 1121 JH000	Carbon 180Ω 1/8W ±5%	1				
R239	RP3 3 2121 JH000	Carbon 3.3kΩ 1/8W ±5%	1				
R240	RP6 8 1121 JH000	Carbon 680Ω 1/8W ±5%	1				
R241	RP2 2 2121 JH000	Carbon 2.2kΩ 1/8W ±5%	1				
R242	RP1 8 2121 JH000	Carbon 1.8kΩ 1/8W ±5%	1				
R243	RP3 3 2121 JH000	Carbon 3.3kΩ 1/8W ±5%	1				
R244	RP1 2 3121 JH000	Carbon 12kΩ 1/8W ±5%	1				
R245	RP1 0 2121 JH000	Carbon 1kΩ 1/8W ±5%	1				
R246	RP2 2 3121 JH000	Carbon 22kΩ 1/8W ±5%	1				
R247	RP1 0 3121 JH000	Carbon 10kΩ 1/8W ±5%	1				
R248	RP2 2 2121 JH000	Carbon 2.2kΩ 1/8W ±5%	1				
R249	RP1 0 3121 JH000	Carbon 10kΩ 1/8W ±5%	1				
R251	RP8 2 1121 JH000	Carbon 820Ω 1/8W ±5%	1				

RADIO TUNER P.C.B. ASSY

PCB2	141	0 1939 01010	Radio Tuner P.C.B. Assy	1
		4 2369 73780	GT Pin 1P	1
		4 2369 73781	Pin 1P	2
	141	2 3229 41300	Case Shield	1
	141	2 4729 04700	Staple, 10mm	8
	141	2 4729 05000	Staple, 5mm	8
CN1	4	2369 73370	Connector 4P	1
CN2	4	2369 73360	Connector 3P	1
S1	4	2319 75800	Slide Switch (Band Select)	1
L1	4	2599 70810	RF Coil	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
L2	4 2589 71960	FM OSC Trans	1	C36	CC1 0 0500 JD00C	Ceramic 10pF 50V ±5%	1
L3	4 2659 70241	Loading Coil	1	C37	CC2 7 0500 JD00C	Ceramic 27pF 50V ±5%	1
L4	4 2579 71520	Bar Antenna	1	C38	CC5 0 A500 CD00C	Ceramic 5pF 50V ±0.2pF	1
L5	4 2539 71021	Band Pass Filter	1	C39	CC5 0 A500 CD00C	Ceramic 5pF 50V ±0.2pF	1
T1	4 2569 70301	IFT	1	C40	CS3 1 2500 J010V	Polystyroul 0.0031μF 50V ±5%	1
T2	4 2569 71340	IFT FM	1	C41	CS3 6 1500 J010V	Polystyroul 360pF 50V ±5%	1
T3	4 2569 71030	IFT 455kHz	1	C42	CS2 0 1500 J010V	Polystyroul 200pF 50V ±5%	1
T4	4 2569 71022	IFT 455kHz	1	C43	CC8 0 A500 CD00C	Ceramic 8pF 50V ±0.2pF	1
T5	4 2569 71120	IFT AM	1	C44	CC1 5 0500 JD00C	Ceramic 15pF 50V ±5%	1
T6	4 2579 70722	Antenna Coil	1	C45	CC1 0 1500 JD00C	Ceramic 100pF 50V ±5%	1
T7	4 2589 71422	OSC Trans SW	1	C46	CI2 2 3160 XG00R	Boundary 0.022μF 16V +40,-20%	1
T8	4 2589 71410	OSC Trans	1	C47	CC3 0 A500 CD00C	Ceramic 3pF 50V ±0.2pF	1
T9	4 2589 71400	OSC Trans	1	C48	CD4 7 4100 0000V	Electrolytic 0.47μF 10V	1
T10	4 2569 71360	Trap 19KHZ	1	C49	CI2 2 3160 XG00R	Boundary 0.022μF 16V +40,-20%	1
T11	4 2569 71360	Trap 19KHZ	1	C50	CI1 0 3250 MF00R	Boundary 0.01μF 25V ±20%	1
P1	4 2229 73053	Potentiometer (B-5kΩ)	1	C51	CI1 0 3250 MF00R	Boundary 0.01μF 25V ±20%	1
IC1	4 2069 71842	IC, BA 4404	1	C52	CI2 2 3160 XG00R	Boundary 0.022μF 16V +40,-20%	1
IC2	4 2069 71730	IC, TA 7640 AP	1	C53	CI2 2 3160 XG00R	Boundary 0.022μF 16V +40,-20%	1
IC3	4 2069 71660	IC, TA 7343 P	1	C54	CC1 0 2500 KEX0C	Ceramic 0.001μF 50V ±10%	1
Q1	203 5 7200 60860	Transistor, 2SA 608	1	R1	RP1 0 0121 JH000	Carbon 10Ω 1/8W ±5%	1
Q2	4 2039 70460	Transistor, 2SC 1675	1	R2	RP2 2 1121 JH000	Carbon 220Ω 1/8W ±5%	1
D1	4 2029 71440	Diode, 1SS 95	1	R4	RP3 3 4121 JH000	Carbon 330kΩ 1/8W ±5%	1
PVC1	4 2249 70791	Variable Condenser	1	R5	RD3 3 4251 JM000	Carbon 330kΩ 1/4W ±5%	1
CF1	4 2539 70690	Ceramic Filter	1	R6	RP3 3 4121 JH000	Carbon 330kΩ 1/8W ±5%	1
CF2	4 2539 70690	Ceramic Filter	1	R7	RP3 3 2121 JH000	Carbon 3.3kΩ 1/8W ±5%	1
TC1	4 2249 70290	Trimmer Condenser	1	R8	RP4 7 0121 JH000	Carbon 47Ω 1/8W ±5%	1
TC2	4 2249 70350	Trimmer	1	R9	RP4 7 0121 JH000	Carbon 47Ω 1/8W ±5%	1
TC3	4 2249 70290	Trimmer Condenser	1	R10	RP1 0 2121 JH000	Carbon 1kΩ 1/8W ±5%	1
TC4	4 2249 70290	Trimmer Condenser	1	R11	RP1 0 3121 JH000	Carbon 10kΩ 1/8W ±5%	1
TC5	4 2249 70350	Trimmer	1	R12	RP5 6 1121 JH000	Carbon 560Ω 1/8W ±5%	1
C1	CI2 2 3160 XG00R	Boundary 0.022μF 16V +40,-20%	1	R13	RP1 5 4121 JH000	Carbon 150kΩ 1/8W ±5%	1
C2	CI2 2 3160 XG00R	Boundary 0.022μF 16V +40,-20%	1	R14	RP2 2 2121 JH000	Carbon 2.2kΩ 1/8W ±5%	1
C3	CC2 0 0500 JD00C	Ceramic 20pF 50V ±5%	1	R15	RP2 2 2121 JH000	Carbon 2.2kΩ 1/8W ±5%	1
C4	CC1 8 0500 JCH0C	Ceramic 18pF 50V ±5%	1	R16	RP5 6 2121 JH000	Carbon 5.6kΩ 1/8W ±5%	1
C5	CI2 2 3160 XG00R	Boundary 0.022μF 16V +40,-20%	1	R17	RP5 6 2121 JH000	Carbon 5.6kΩ 1/8W ±5%	1
C6	CC5 0 A500 CD00C	Ceramic 5pF 50V ±0.2pF	1	R18	RP4 7 0121 JH000	Carbon 47Ω 1/8W ±5%	1
C7	CC1 5 0500 JD00C	Ceramic 15pF 50V ±5%	1	R19	RP6 8 2121 JH000	Carbon 6.8kΩ 1/8W ±5%	1
C8	CC1 0 0500 JD00C	Ceramic 10pF 50V ±5%	1	R20	RP6 8 2121 JH000	Carbon 6.8kΩ 1/8W ±5%	1
C9	CI2 2 3160 XG00R	Boundary 0.022μF 16V +40,-20%	1	R21	RP1 0 1121 JH000	Carbon 100Ω 1/8W ±5%	1
C10	CI2 2 3160 XG00R	Boundary 0.022μF 16V +40,-20%	1	R22	RP1 0 2121 JH000	Carbon 1kΩ 1/8W ±5%	1
C11	CI2 2 3160 XG00R	Boundary 0.022μF 16V +40,-20%	1	R23	RP1 0 0121 JH000	Carbon 10Ω 1/8W ±5%	1
C12	CI2 2 3160 XG00R	Boundary 0.022μF 16V +40,-20%	1	R24	RP3 3 0121 JH000	Carbon 33Ω 1/8W ±5%	1
C13	CC4 7 1500 KE00C	Ceramic 470pF 50V ±10%	1	R25	RD2 2 1251 JM000	Carbon 220Ω 1/4W ±5%	1
C14	CI2 2 3160 XG00R	Boundary 0.022μF 16V +40,-20%	1	R26	RP1 0 3121 JH000	Carbon 10kΩ 1/8W ±5%	1
C15	CI2 2 3160 XG00R	Boundary 0.022μF 16V +40,-20%	1	R27	RP2 2 2121 JH000	Carbon 2.2kΩ 1/8W ±5%	1
C16	CD1 0 6100 0000V	Electrolytic 10μF 10V	1	R28	RP4 7 2121 JH000	Carbon 4.7kΩ 1/8W ±5%	1
C17	CD2 2 6100 0000V	Electrolytic 22μF 10V	1	R29	RP1 0 2121 JH000	Carbon 1kΩ 1/8W ±5%	1
C18	CC6 0 A500 CD00C	Ceramic 6pF 50V ±0.2pF	1	R30	RP2 2 2121 JH000	Carbon 2.2kΩ 1/8W ±5%	1
C19	CD1 0 5100 0000V	Electrolytic 1μF 10V	1	R31	RP4 7 4121 JH000	Carbon 470kΩ 1/8W ±5%	1
C20	CD1 0 5100 0000V	Electrolytic 1μF 10V	1	R32	RP2 2 2121 JH000	Carbon 2.2kΩ 1/8W ±5%	1
C21	CD3 3 5100 0000V	Electrolytic 3.3μF 10V	1	AMSS CONTROL P.C.B. ASSY			
C22	CS1 0 2500 J010V	Polystyroul 0.001μF 50V ±5%	1	PCB3	141 0 1939 00470	AMSS Control P.C.B. Assy	1
C23	CD1 0 6100 0000V	Electrolytic 10μF 10V	1	CN3	4 2359 75897	Connector 6P Assy	1
C24	CC1 0 2500 KE00R	Ceramic 0.001μF 50V ±10%	1	S7	4 2319 75560	Touch Switch (AMSS Program)	1
C25	CC1 0 2500 KE00R	Ceramic 0.001μF 50V ±10%	1	S8	4 2319 75330	Push Switch (REC. Mute)	1
C26	CD1 0 4160 0000V	Electrolytic 0.1μF 16V	1	IC401	4 2069 71720	IC, TC 9138 AP	1
C27	CD1 0 4160 0000V	Electrolytic 0.1μF 16V	1	D401	4 2029 71440	Diode, 1SS 95	1
C28	CI1 0 3250 MF00R	Boundary 0.01μF 25V ±20%	1	D402	4 2029 72220	LED, TLR 211 (DOLBY NR)	1
C29	CI1 0 3250 MF00R	Boundary 0.01μF 25V ±20%	1	D403	4 2029 72230	LED, GL 8 P 04 (AMSS Ind.)	1
C30	CI2 2 3160 XG00R	Boundary 0.022μF 16V +40,-20%	1	Q401	4 2039 70990	Transistor, 2SA 937	1
C31	CD4 7 7100 0000V	Electrolytic 470μF 10V	1	Q402	4 2039 70620	Transistor, 2SC 2021	1
C32	CC1 0 2500 KE00R	Ceramic 0.001μF 50V ±10%	1	C401	CD1 0 6160 0002V	Electrolytic 10μF 16V	1
C33	CI2 2 3160 XG00R	Boundary 0.022μF 16V +40,-20%	1				
C34	CC1 5 0500 JD00C	Ceramic 15pF 50V ±5%	1				

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty		
C402	CD1 0 6160 0002V	Electrolytic	10 μ F 16V	1	LED INDICATOR P.C.B. ASSY				
C403	CD3 3 5500 0002V	Electrolytic	3.3 μ F 50V	1	PCB6	4 1329 78451	LED Indicator P.C.B. Assy	1	
C404	CI1 0 3250 KF00C	Boundary	0.01 μ F 25V $\pm$ 10%	1	CN2	4 2359 75840	Connector 3P Assy	1	
C405	CD4 7 4500 0002V	Electrolytic	0.47 μ F 50V	1	CN4	4 2359 75759	Connector 3P Assy	1	
C406	CM1 0 4500 J00TV	Mylar	0.1 μ F 50V $\pm$ 5%	1	IC501	4 2069 71890	IC, AN 6884	1	
R401	RP4 7 2121 JZ000	Carbon	4.7k Ω 1/8W $\pm$ 5%	1	D501	4 2029 71700	LED, SLP 166 (VU Meter/Power/Battery)	1	
R402	RP1 5 2121 JZ000	Carbon	1.5k Ω 1/8W $\pm$ 5%	1	D502	4 2029 72440	LED, SLP 955 (FM Stereo)	1	
R403	RP1 5 2121 JZ000	Carbon	1.5k Ω 1/8W $\pm$ 5%	1	D503	4 2029 72430	LED, SLP 255 (Tuning)	1	
R404	RP1 5 2121 JZ000	Carbon	1.5k Ω 1/8W $\pm$ 5%	1	C501	CD1 0 6160 0001V	Electrolytic	10 μ F 16V	1
R405	RP1 5 2121 JZ000	Carbon	1.5k Ω 1/8W $\pm$ 5%	1	R501	RH3 3 1501 JH000	Metal	330 Ω 1/2W $\pm$ 5%	1
R406	RP1 5 2121 JZ000	Carbon	1.5k Ω 1/8W $\pm$ 5%	1	R502	RH1 2 1501 JH000	Metal	120 Ω 1/2W $\pm$ 5%	1
R407	RP1 5 2121 JZ000	Carbon	1.5k Ω 1/8W $\pm$ 5%	1	R503	RP1 0 3121 JH000	Carbon	10k Ω 1/8W $\pm$ 5%	1
R408	RP1 5 2121 JZ000	Carbon	1.5k Ω 1/8W $\pm$ 5%	1	R504	RH2 7 1501 JH000	Metal	270 Ω 1/2W $\pm$ 5%	1
R409	RP1 5 2121 JZ000	Carbon	1.5k Ω 1/8W $\pm$ 5%	1	NOTES:				
R410	RP1 0 3121 JZ000	Carbon	10k Ω 1/8W $\pm$ 5%	1	1. Parts order must contain Model Number, Part Number and Description.				
R411	RP1 0 3121 JZ000	Carbon	10k Ω 1/8W $\pm$ 5%	1	2. Ordering quantity of screws and resistors must be multiple of 10 pcs.				
R412	RP3 3 0121 JZ000	Carbon	33 Ω 1/8W $\pm$ 5%	1					
R413	RP2 2 2121 JZ000	Carbon	2.2k Ω 1/8W $\pm$ 5%	1					
R414	RP1 8 4121 JZ000	Carbon	180k Ω 1/8W $\pm$ 5%	1					
R416	RP1 0 3121 JZ000	Carbon	10k Ω 1/8W $\pm$ 5%	1					
R417	RP1 0 3121 JZ000	Carbon	10k Ω 1/8W $\pm$ 5%	1					
R418	RP2 2 1121 JZ000	Carbon	220 Ω 1/8W $\pm$ 5%	1					
R419	RP6 8 2121 JZ000	Carbon	6.8k Ω 1/8W $\pm$ 5%	1					
R420	RP3 3 3121 JZ000	Carbon	33k Ω 1/8W $\pm$ 5%	1					
R421	RP3 6 3121 JT000	Carbon	36k Ω 1/8W $\pm$ 5%	1					
R422	RP3 9 3121 JZ000	Carbon	39k Ω 1/8W $\pm$ 5%	1					
R423	RP1 5 2121 JZ000	Carbon	1.5k Ω 1/8W $\pm$ 5%	1					

JACK P.C.B. ASSY

PCB4	141	0 1939 00791	Jack P.C.B. Assy					1
		4 2262 15020	PCB Line Jack					1
S9		4 2319 75590	Slide Switch (Beat Cancel)					1
J6		4 2359 73601	2P Jack (LINE IN)					1
J7		4 2359 73601	2P Jack (LINE OUT)					1
C601	CC2	7 2500 KE00C	Ceramic	0.0027 μ F	50V	$\pm$ 10%		1
C602	CM1	0 3500 K00SV	Mylar	0.01 μ F	50V	$\pm$ 10%		1

POWER SUPPLY P.C.B. ASSY

PCB5	4	1919	71652	Power Supply P.C.B. Assy	1			
	4	2359	70910	Holder Fuse	2			
	141	2	4359	21300	Socket Cover	1		
	141	2	4729	05300	Wire Band	3		
S14	△	4	2319	75770	Rotary Switch (Voltage Select)	1		
J5	△	4	2359	73682	AC DC Power Socket	1		
F1	△	4	2349	70140	Fuse (T1A)	1		
D701		202	5	2320	13210	Diode, DS 132 A	1	
D702		202	5	2320	13110	Diode, DS 131 A	1	
C701	CC2	2	3500	ZG00C	Ceramic	0.022μF	50V +80,-20%	1
C702	CC2	2	3500	ZG00C	Ceramic	0.022μF	50V +80,-20%	1
C703	CC2	2	3500	ZG00C	Ceramic	0.022μF	50V +80,-20%	1
C704	CC2	2	3500	ZG00C	Ceramic	0.022μF	50V +80,-20%	1
C705	CD2	2	8250	0001V	Electrolytic	2200μF	25V	1

PRODUCT SAFETY NOTICE

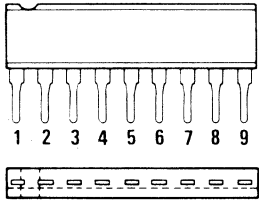
Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol Δ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with Δ , use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual.

Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

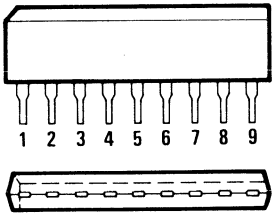
IC & TRANSISTOR LEAD IDENTIFICATION

TRANSISTOR	FRONT VIEW	BOTTOM VIEW
2SA659 2SC1571 2SC1815 2SD400 2SD734 2SC1675 2SA608		
2SD1012		
2SC1583		
2SC2021 2SA937		
TERMINAL NAME		
B → BASE C → COLLECTOR E → EMITTER		

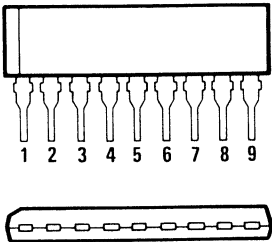
TA7343P FRONT/BOTTOM VIEWS



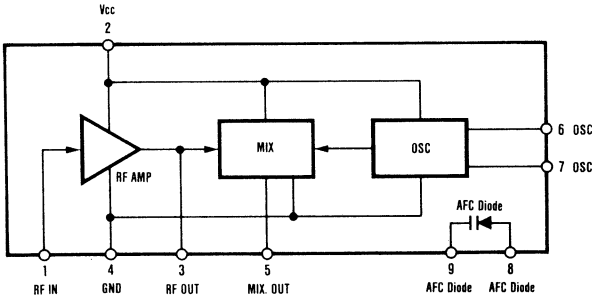
BA4404 FRONT/BOTTOM VIEWS



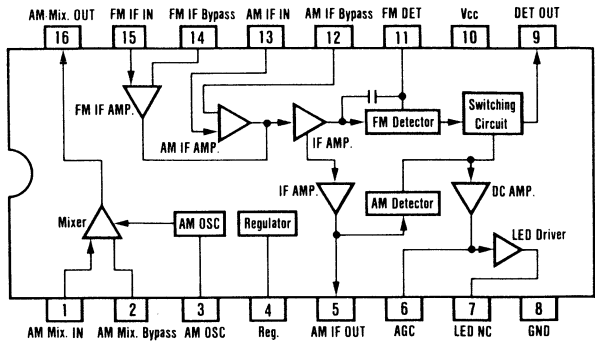
AN6884 FRONT/BOTTOM VIEWS



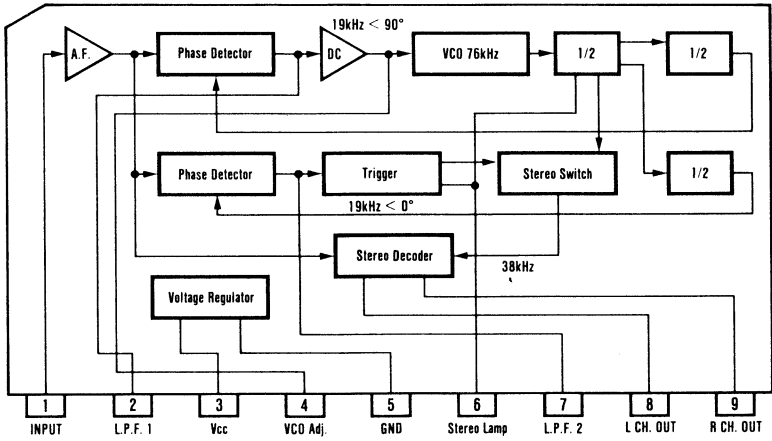
BA4404 BLOCK DIAGRAM



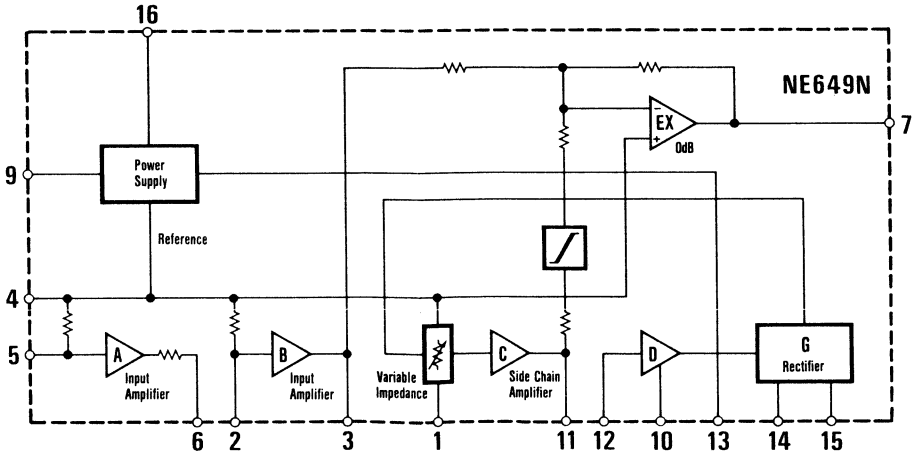
TA7640AP BLOCK DIAGRAM



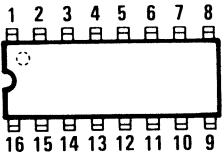
TA7343P BLOCK DIAGRAM



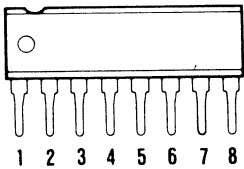
NE649N BLOCK DIAGRAM



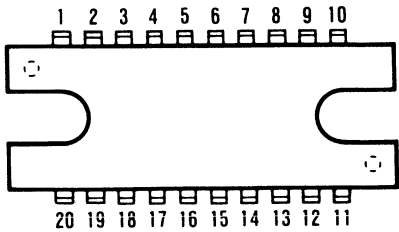
NE649N
TC9138AP
TA7640AP } BOTTOM VIEW



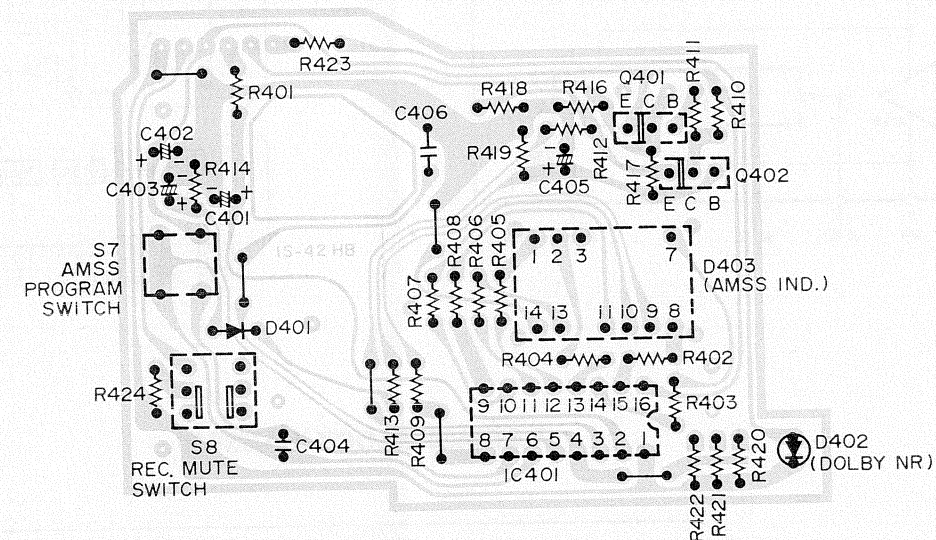
BA3302 BOTTOM VIEW



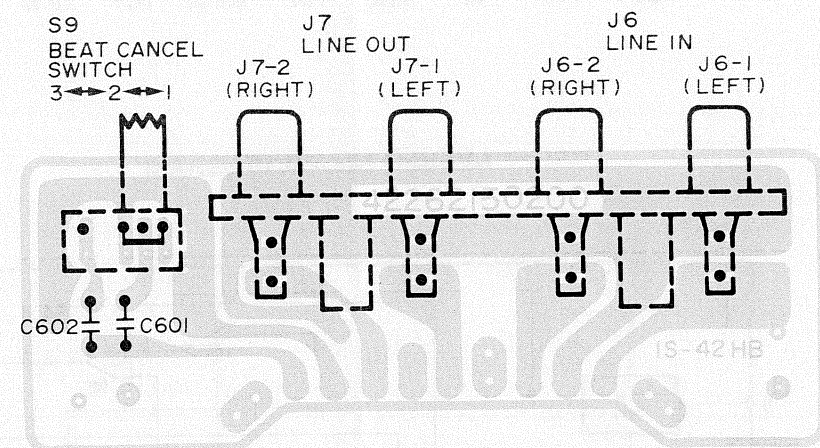
LA4505 BOTTOM VIEW



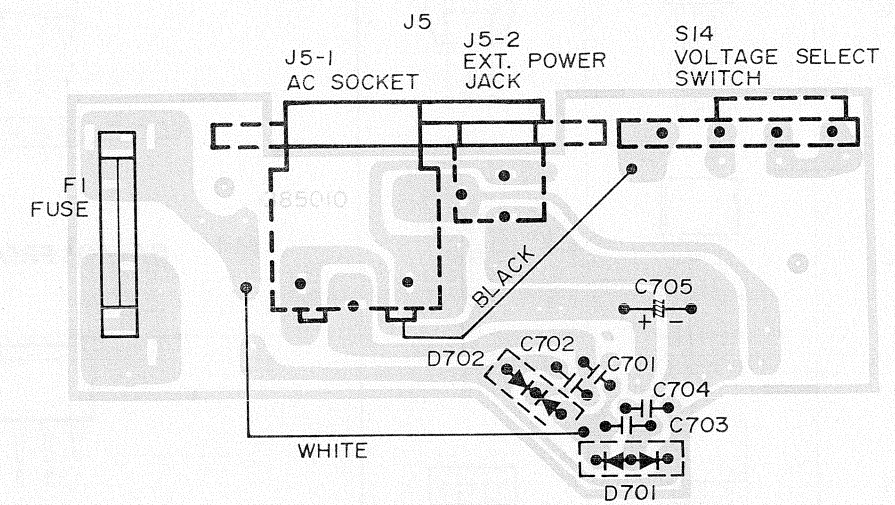
AMSS PROGRAM P.C.BOARD



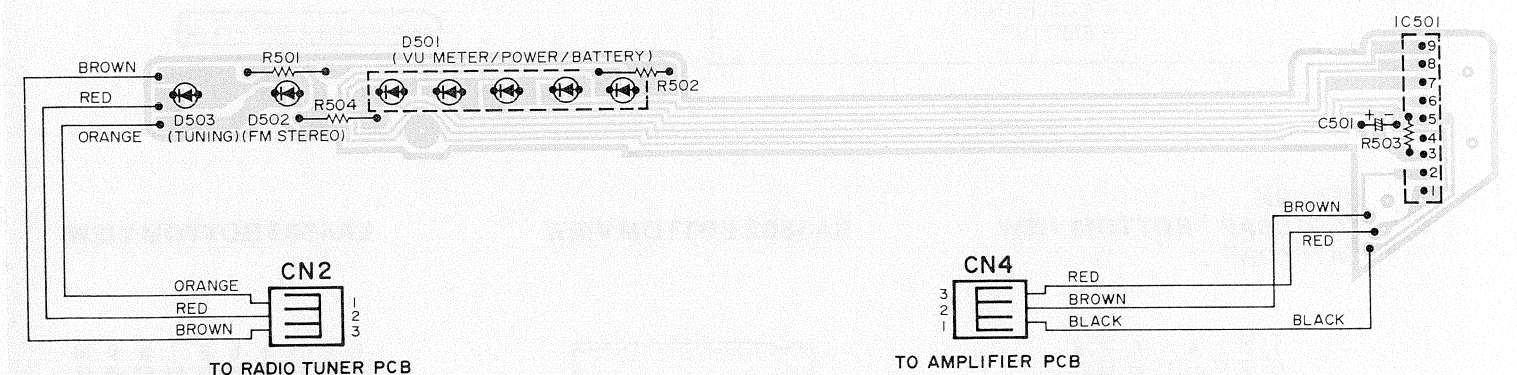
JACK P.C.BOARD



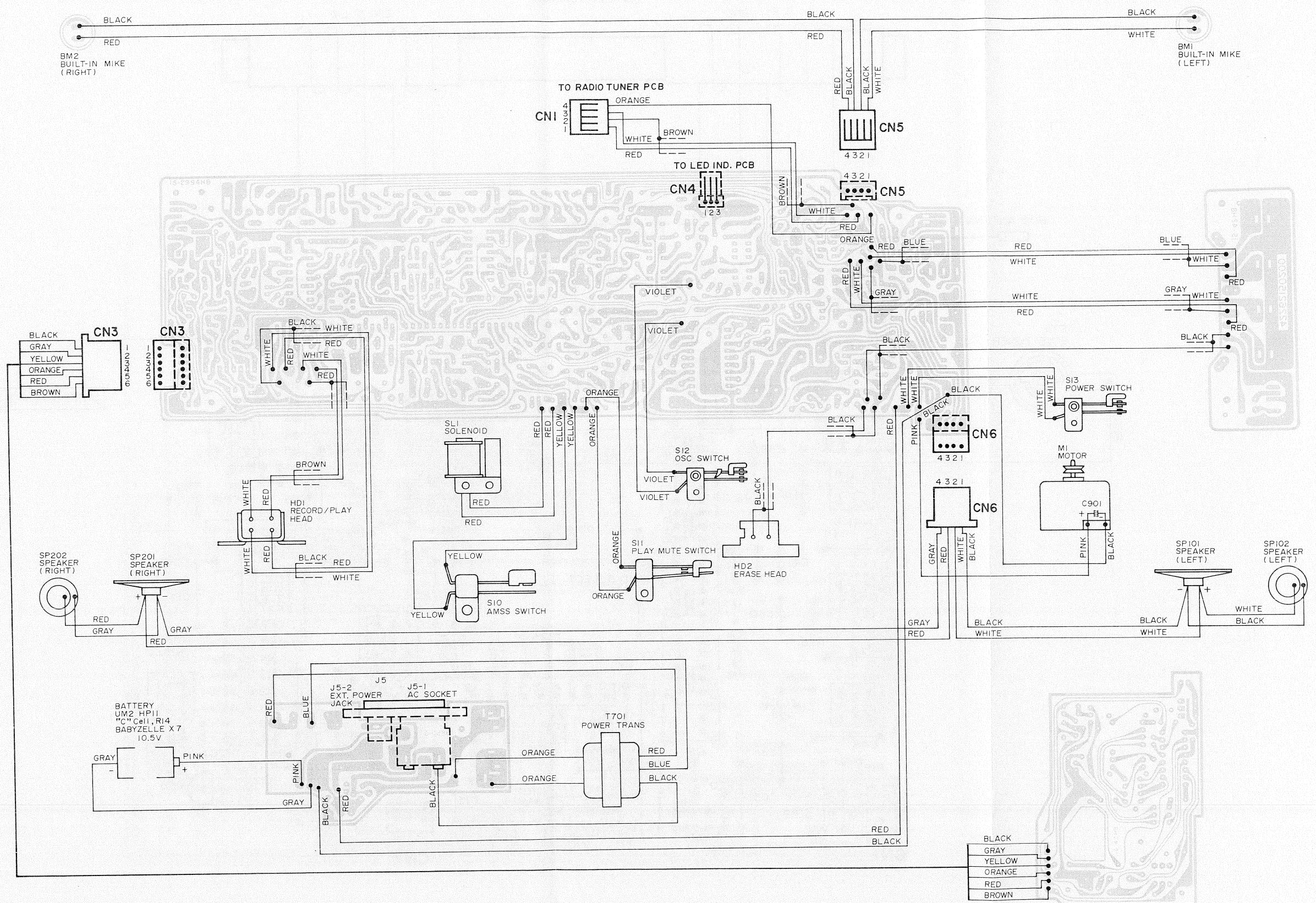
POWER SUPPLY P.C.BOARD



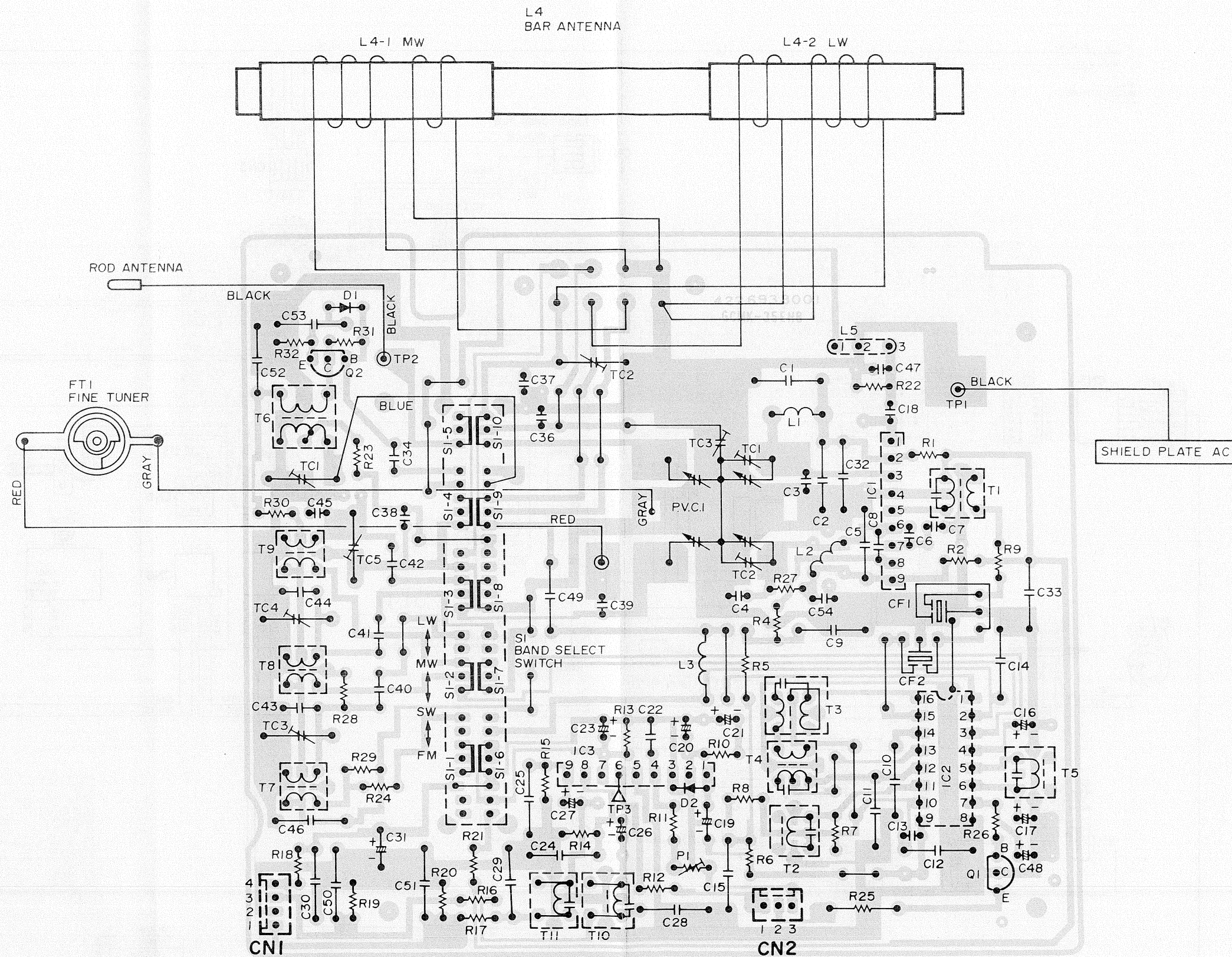
LED INDICATOR P.C.BOARD



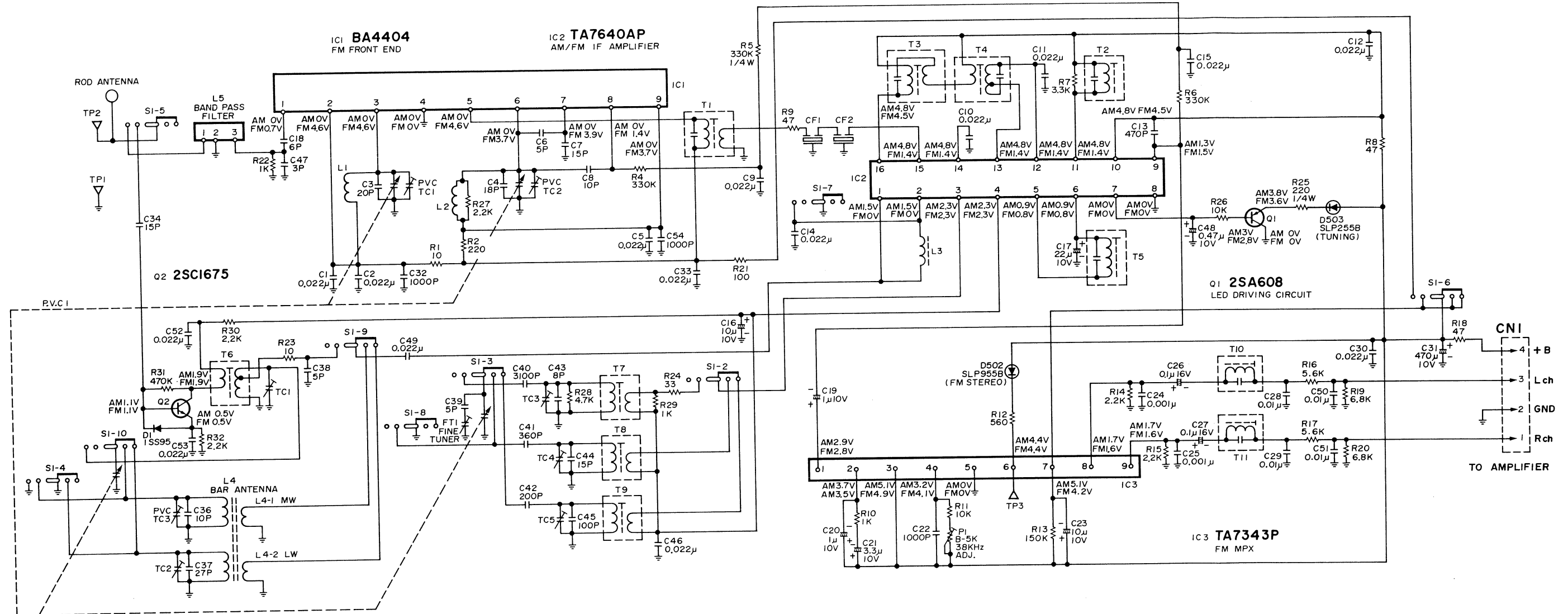
WIRING DIAGRAM



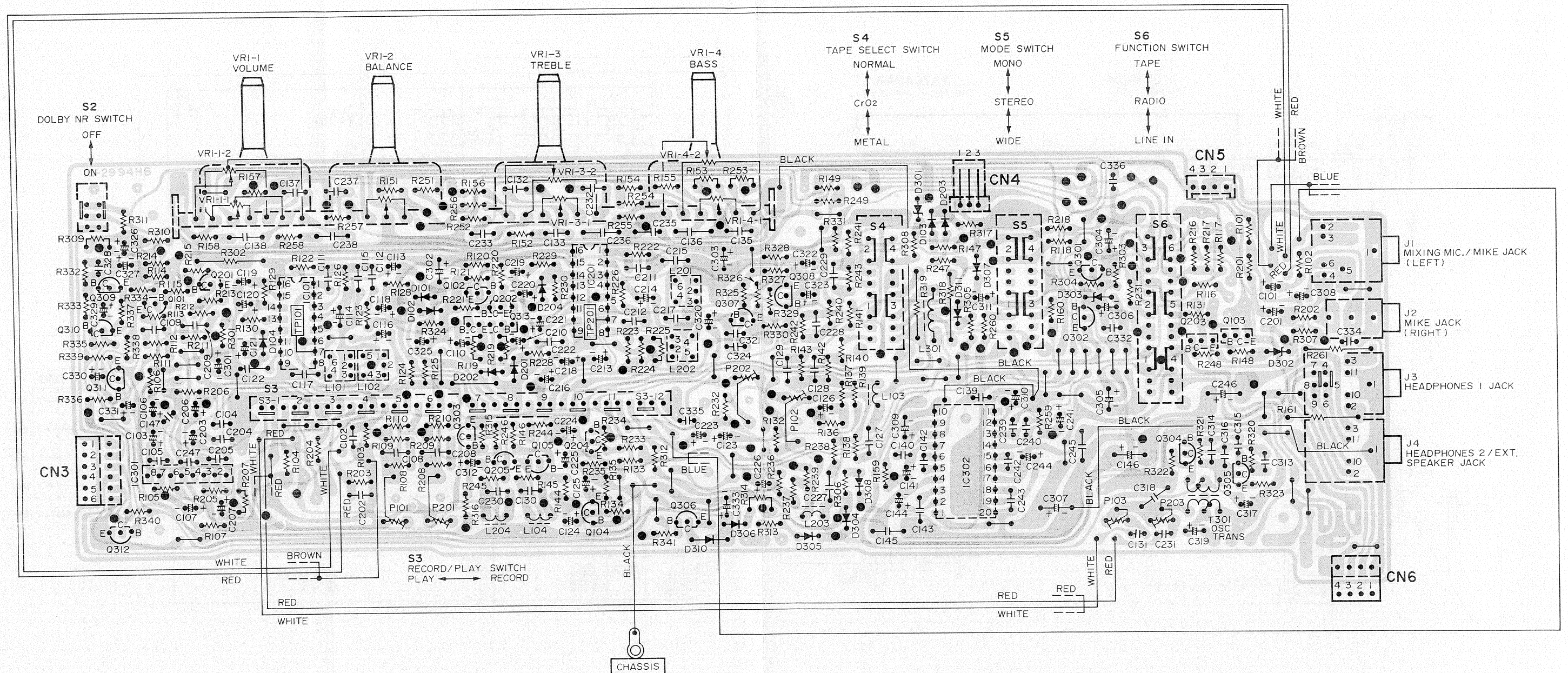
RADIO TUNER P.C.BOARD



SCHEMATIC DIAGRAM (Tuner)



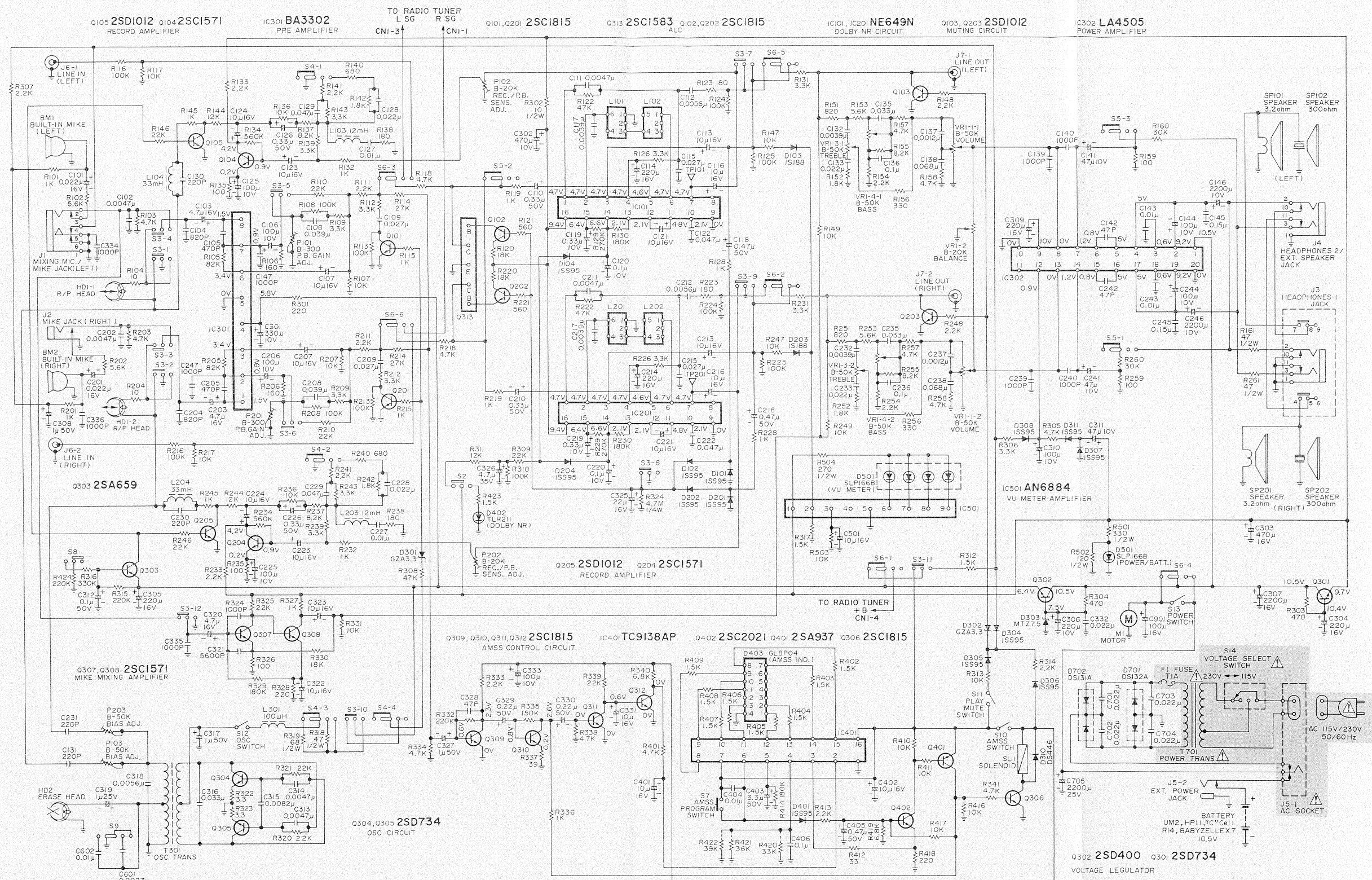
AMPLIFIER P.C.BOARD



PRODUCT SAFETY NOTICE

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SCHEMATIC DIAGRAM (Amplifier)



No.	Name	Position	No.	Name	Position
S1	Band Select Switch	LW	S8	Rec. Mute Switch	OFF
S2	DOLBY NR switch	OFF	S9	Beat Cancel Switch	1
S3	Record/Play Switch	PLAY	S10	AMSS Switch	OFF
S4	Tape Select Switch	NORMAL	S11	Play Mute Switch	OFF
S5	Mode Switch	MONO	S12	OSC Switch	OFF
S6	Function Switch	TAPE	S13	Power Switch	OFF
S7	AMSS Program Switch	OFF	S14	Voltage Select Switch	230V